I I Ferree.

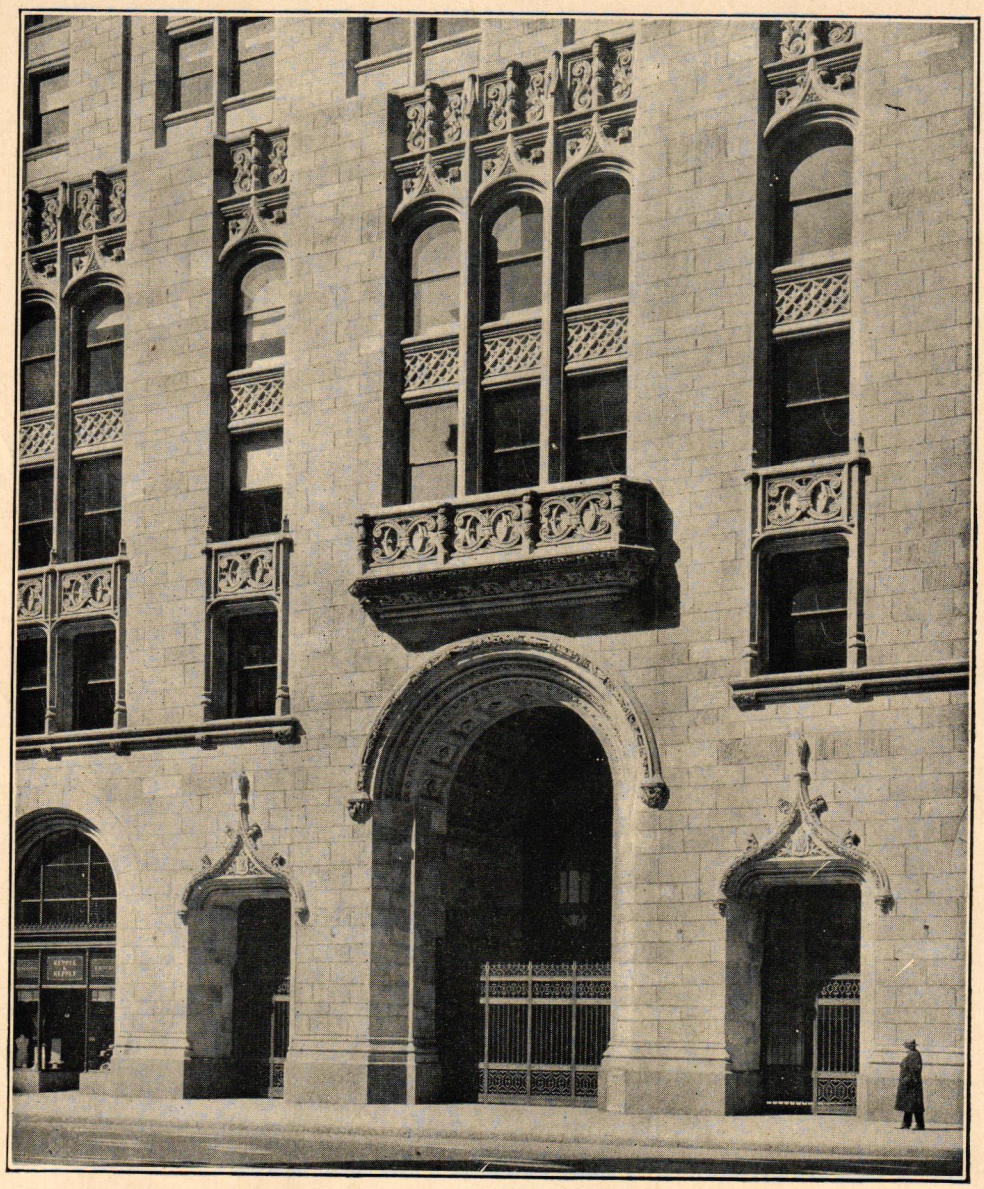
JUNE 1929

PENCIL POINTS

A JOURNAL FOR
THE DRAFTING ROOM

35 CENTS A COPY

20,000 COPIES OF
THIS ISSUE PRINTED



Fourth Avenue entrance, New York Life Insurance Company Building, New York City
Cass Gilbert, Architect. Starrett Bros., Inc., Builders

"Variegated" the ideal medium for sculptural detail

THE most elaborate machine-moulded or cut detail and carved ornaments of all kinds can just as readily be executed in the "variegated" as in the finer textured varieties of Indiana Limestone. "Variegated" is an irregular mixture of the Gray and Buff stone produced from blocks that are quarried where the Buff and Gray color-tones adjoin in the quarry. There is a fair range of variation in texture as well as in color-tone. This class of stone when cut up for building purposes will include pieces of both color-tones and a small percentage of stone with both color-tones in one piece. The effect, as the New York Life Insurance Company Building evidences, is one of subtle variety and never-ending charm. We will gladly send you literature telling about the various classes of Indiana Limestone and showing how they have been used in well-known buildings. Address Dept. 784, Service Bureau, Bedford, Indiana.

INDIANA LIMESTONE COMPANY

General Offices: Bedford, Indiana *Executive Offices:* Tribune Tower, Chicago

Pencil Points, published monthly by The Pencil Points Press, Inc., 419 Fourth Avenue, New York, N. Y. Yearly subscription $3.00. Single copies 35 cents. Entered as second class matter April 9, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Volume X No 6. Dated June, 1929.



You Know *What* You are Approving

When You Approve Atlantic Shop Drawings

THE Draftsman who has the responsibility of checking Shop Drawings appreciates the clean, clear and comprehensive drawings prepared by the Atlantic draftsmen.

He has neither to rack his brain nor wreck his eyesight. He can read the drawings at a glance.

Atlantic construction is not always the cheapest, but it is always safe, and it shows understanding of the Architect's design, a faithful translation.

This advertisement is based on what many Architects and Draftsmen have told us.

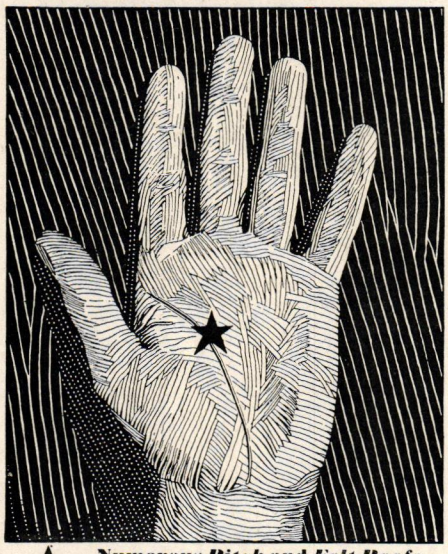
Atlantic Terra Cotta Company

19 West 44th Street, New York

Atlanta Terra Cotta Company

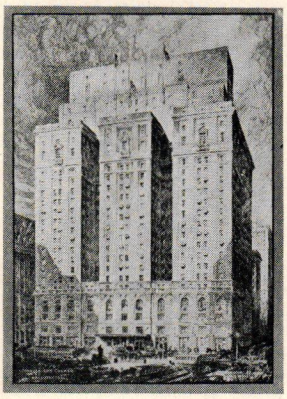
Atlanta, Georgia

CHOOSE "ATP" THE ROOF WITH THE LONG LIFE-LINE



★ **Numerous *Pitch* and *Felt Roofs*, still in good condition, have stood severe service for from 25 to 40 —even 50 years—a record of service far out-classing any other type of built-up bituminous roofing known to man.**

The William Penn Hotel, Pittsburgh, when first erected sixteen years ago, chose an ATP Roof to protect their new building. Little wonder that after sixteen years of service the hotel management again chose an ATP Roof for their new addition now just completed.



Janssen & Cocken, Arch., Pittsburgh
W. T. Grange Construction Co., Gen'l Contr., Pittsburgh
Scott A. White, Roofing Contr., Pittsburgh

ATP ROOFS

Last as Long as the Building

Strong enough to resist the attacks of the elements; resilient enough to withstand the stresses and strains transmitted by the deck, ATP Roofs give reliable service year after year.

Only the very finest materials are used in their construction . . . . layer upon layer of ATP Old Style Pitch and Approved Tarred Felt and an armor of gravel combine to form an impregnable roof. ATP Roofs are trouble-proof. No repairs nor maintenance necessary. They last as long as the building.

Fourteen applications of ATP Roofs are shown in the ATP Specification Book, A.I.A. File 12-b-11. The principal specifications for ATP Roofs are shown in Sweet's.

4 Reasons for the Unusual ATP Service

1. ATP Roofs are homogeneous from deck to armor.
2. ATP Roofs take class A Fire Underwriters rating.
3. ATP Roofs are accompanied by a 10-year or 20-year bond if desired.
4. ATP Old Style Pitch and ATP Approved Tarred Felt are manufactured to specifications more exacting than U. S. Government Master Specifications.

AMERICAN TAR PRODUCTS COMPANY
General Offices: Pittsburgh, Pa.
New England Division: TAR PRODUCTS CORPORATION
Providence, R. I.
Plants at Chicago, Jersey City, St. Louis, Birmingham, Milwaukee, Youngstown, O., Utica, N. Y., Providence, R. I., and Follansbee, W. Va.

Above all— **ATP ROOFS**

ARMORED WITH GRAVEL OR SLAG

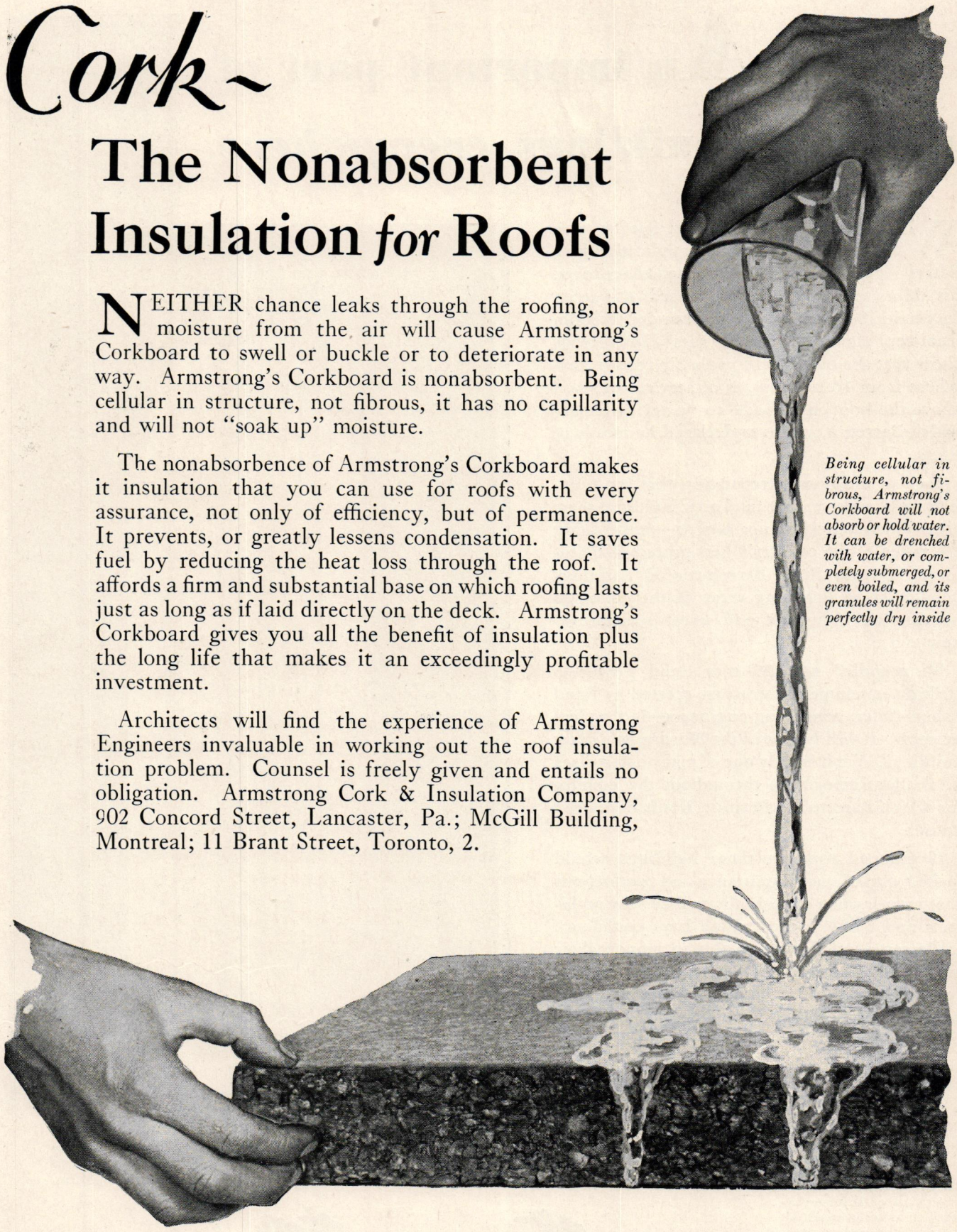
Cork—

The Nonabsorbent Insulation *for* Roofs

NEITHER chance leaks through the roofing, nor moisture from the air will cause Armstrong's Corkboard to swell or buckle or to deteriorate in any way. Armstrong's Corkboard is nonabsorbent. Being cellular in structure, not fibrous, it has no capillarity and will not "soak up" moisture.

The nonabsorbence of Armstrong's Corkboard makes it insulation that you can use for roofs with every assurance, not only of efficiency, but of permanence. It prevents, or greatly lessens condensation. It saves fuel by reducing the heat loss through the roof. It affords a firm and substantial base on which roofing lasts just as long as if laid directly on the deck. Armstrong's Corkboard gives you all the benefit of insulation plus the long life that makes it an exceedingly profitable investment.

Architects will find the experience of Armstrong Engineers invaluable in working out the roof insulation problem. Counsel is freely given and entails no obligation. Armstrong Cork & Insulation Company, 902 Concord Street, Lancaster, Pa.; McGill Building, Montreal; 11 Brant Street, Toronto, 2.



Being cellular in structure, not fibrous, Armstrong's Corkboard will not absorb or hold water. It can be drenched with water, or completely submerged, or even boiled, and its granules will remain perfectly dry inside

Armstrong's Corkboard Insulation

for the Roofs of All Kinds of Buildings

An important part of important buildings *everywhere*

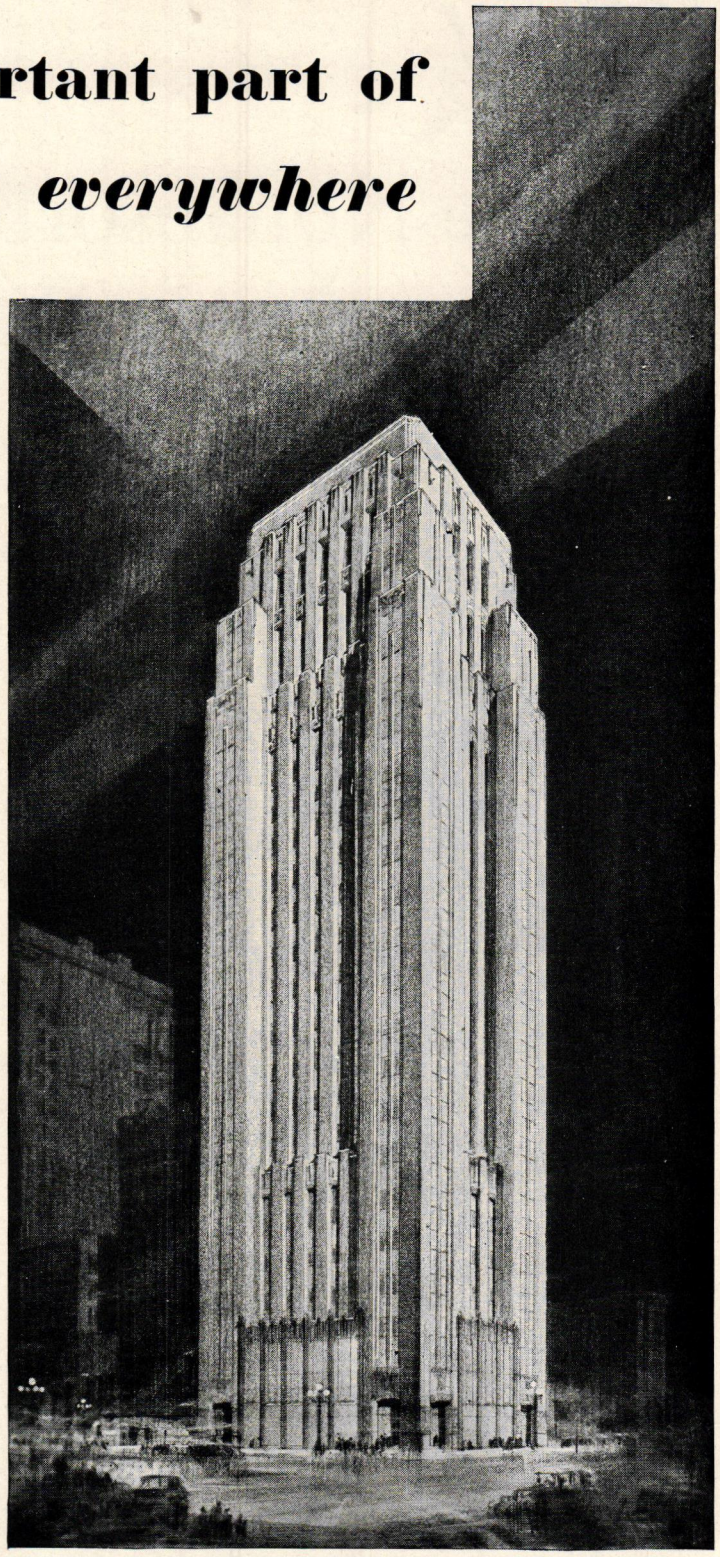
WHEN you specify a Barrett Specification Roof, you specify expert application by a Barrett Approved Roofer—a man who has proved his ability to meet the high standards of Barrett Inspection Service. You specify bonded freedom from roof annoyance for 20 years*, but records show that the owner will probably receive anywhere from 10 to 30 years of service over and above the bonded period—an "extra dividend" which Barrett Roofs have declared hundreds of times.

Such is the Barrett reputation that most important new skyscrapers and civic buildings seem almost automatically to *go Barrett*—thus joining the ranks of the country's best-protected buildings. A roll-call of Barrett-roofed buildings would list an imposing array of the country's best-known industries and finest structures—new and old.

Minneapolis' new 25-story Rand Tower—a striking, monumental structure erected by Rand Laboratories, consulting engineers—is a typical example. It will be one of the Northwest's finest buildings. Yet it is only one of many enterprises of similar importance throughout the country for which Barrett Specification Roofs have been chosen.

If grouped together these buildings would make a city of such importance and proportions that even laymen would fully realize why architects and builders everywhere have confidence in Barrett—and always are able to support their judgment by showing nearby examples of Barrett Roofs of Coal-tar Pitch and Felt and gravel which have stood the test of time for 30, 40 and even 50 years.

*The Barrett Company also offers a Specification Type "A" Roof which is bonded for 10 years. This type of roof is adaptable to a certain class of buildings. The same high-grade materials are used, the only difference being in the quantities.



The new RAND MEMORIAL TOWER, in Minneapolis, Minn., protected by a Barrett Specification Roof. *Architect:* Holabird & Root, Chicago, Ill. *General Contractor and Roofer:* C. F. Haglin & Sons Company, Minneapolis, Minn.

Barrett Specification Roofs are constructed of alternate layers of prime quality tarred felt and the finest coal-tar pitch, armored and fire-safed with surface-imbedded gravel, slag or tile. They are laid by Barrett Approved Roofers according to the Barrett Specification and bonded by Barrett against repair or maintenance expense.

Barrett Specification Roofs

Inspected and Bonded by Barrett

THE BARRETT COMPANY, 40 Rector St., New York ~ *In Canada* ~ THE BARRETT COMPANY, Ltd., 5551 St. Hubert St., Montreal, P.Q.



A four position pile driver working on the James River Bridge, Newport News, Va.

Equipment
that cuts costs

This quadruple pile driver is typical of the modern, do-it-big equipment that Raymond utilizes to get work finished weeks or months ahead of schedule—as for instance, at Newport News, Pontchartrain and San Mateo. No wonder we are given so many contracts for big work. Our estimates will interest far-seeing executives who go by past performance.

CAST IN PLACE PILES
COMPOSITE PILES
PRECAST PILES
PIPE PILES

*"A form for every pile
A pile for every purpose"*

BUILDING FOUNDATIONS
BULKHEADS AND DOCKS
UNDERPINNING ETC.
BRIDGES

RAYMOND CONCRETE PILE COMPANY

NEW YORK: 140 Cedar St. CHICAGO: 111 West Monroe St.

Raymond Concrete Pile Co., Ltd., Montreal, Canada

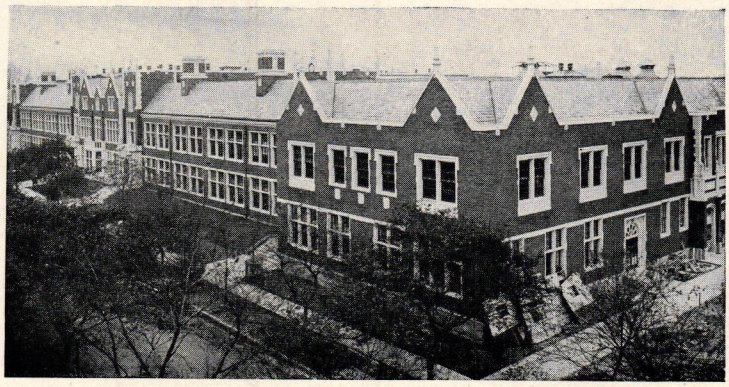
Atlanta	Detroit	Milwaukee	St. Louis
Baltimore	Houston	Philadelphia	St. Paul
Boston	Kansas City	Pittsburgh	Washington
Buffalo	Los Angeles	Portland	London, England
Chicago	Miami	San Francisco	Hong Kong, China
Cleveland			

RAYMOND



Nailing Slate directly to roof-deck of Federal Nailing Concrete Slabs on a community building.

FEDERAL Nailing Concrete ROOF SLABS



Roger Sullivan High School, Chicago, one of the many buildings of all types on which Federal Nailing Concrete Slabs are used for the roof-deck.

These are the Federal Features

1. *Truly permanent—being stone concrete.*
2. *Fireproof — lower insurance rates.*
3. *Light weight saves steel.*
4. *No maintenance whatever.*
5. *Immune to weather, smoke, gases, etc.*
6. *No rust—no rot—no disintegration.*
7. *Quickly laid in any weather.*
8. *Ready at once for composition covering.*
9. *Smooth under-surface — no painting.*
10. *Lowest cost permanent roof available.*

A greater *asset* on the books of the company

SLATE, tile, copper or other ornamental covering may be firmly nailed directly to a concrete roof-deck without the use of wood strips. Nailing concrete slabs of standard Federal design are scientifically made with a bottom portion of high quality concrete adequately reinforced and a top section of nailing concrete of special Federal formula. This material takes nails readily, yet holds them as securely as wood.

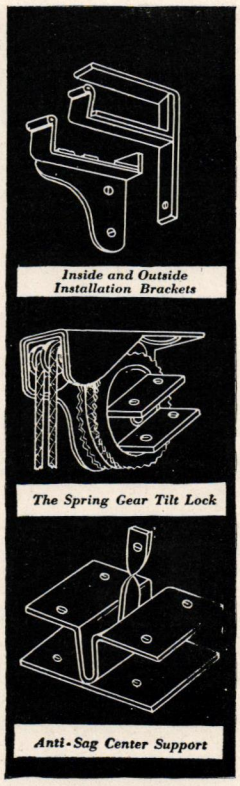
These nailing slabs have been in successful use for years. Today, outstanding buildings such as the University of Chicago Chapel, Shedd Aquarium—and many schools, churches, waterworks, municipal markets and other buildings—benefit by their unusual advantages.

All the assurance of our twenty-five years of experience and prestige are back of the guarantee that goes with Federal Nailing Slabs, as with all Federal products. There is no other way to obtain roof service like this—permanent, fireproof and without maintenance.

Made, Laid and Guaranteed by
FEDERAL CEMENT TILE COMPANY
608 *South* Dearborn Street, Chicago
FOR OVER A QUARTER CENTURY

FEDERAL *Light Weight* Precast Concrete Roof Slabs

The first real advance in Venetian Blinds in 30 years



EVERYONE recognizes the Venetian Blind as the ideal shading device in certain uses and conditions. It admits ventilation while excluding sun-glare. It helps to increase the daylight in dark offices and rooms. It is rich-looking, and it is durable—installations being good normally for a lifetime of service.

Now *Columbia* Mills announces The Perfected Venetian Blind—a great advance over all present types.

This new offering of the *Columbia* Mills has been made in their Pacific coast factories for several years, and its instant success there with architects, builders and building owners has been the main reason for introducing it on a national scale. *Columbia* Perfected Venetian Blinds offer mechanical improvements which are said, by those who know, to be the greatest advance in 30 years.

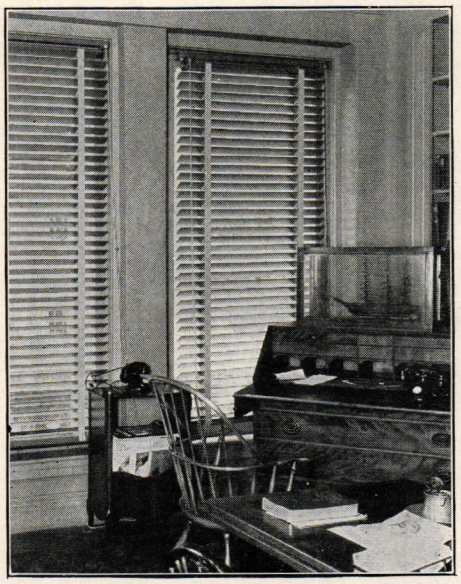
For instance, the *Columbia* Blind has abandoned the friction principle of fixing the angle of the slat, in favor of a ratchet device called the Spring Gear Tilt-Lock (Patent Pending). This exclusive *Columbia* feature positively locks the blinds at the required angle—and yet a slight pull on the guide cord is all that is necessary to tilt the slats to another position.

Another exclusive *Columbia* improvement is the Anti-Sag Center Support. This patented feature gives extra support to the top rail without restricting the angling of the blinds.

The entire *Columbia* Venetian Blind, including head rail is removable from the brackets without unscrewing. Firmly fastened while in use, slight pressure on the retaining spring releases the entire blind.

All pulleys on the *Columbia* Blind run on double race ball-bearings mounted on shafts of Bessemer steel. This ensures quiet, smooth, noiseless running.

Such an apparently unimportant thing as the cord apertures in the slats are cut out, *not stamped*, thus preventing rough edges from fraying the cord. Again, the slats are finished with heat- and water-resisting lacquer to ensure double beauty.



A typical installation of Columbia Venetian Blinds in a New York City office.

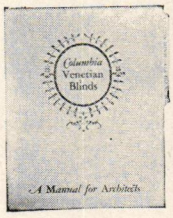
Let us know where to send you a copy of *Columbia* Venetian Blind Specifications. Ask for it on your letterhead, or use the coupon below.

The *Columbia* Mills, Inc.
225 FIFTH AVENUE, NEW YORK

Baltimore Boston Chicago Pittsburgh
Cleveland Dallas Denver Detroit
Fresno Los Angeles Salt Lake City
Minneapolis New Orleans Philadelphia
St. Louis Portland (Ore.) Kansas City
Cincinnati San Francisco Seattle

Columbia
PERFECTED
VENETIAN BLINDS

You'll want this book for your file



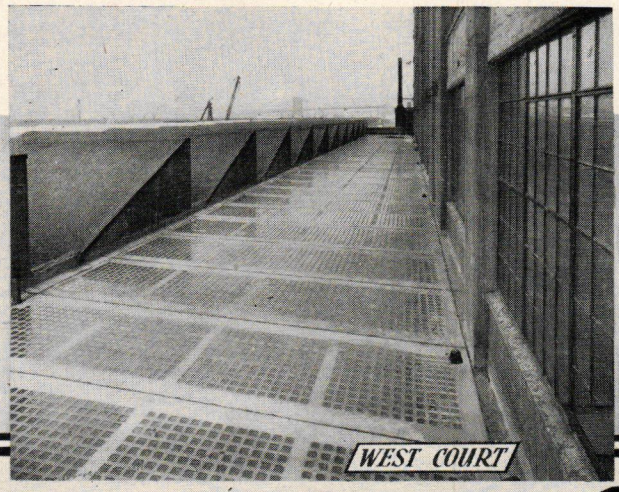
This folder gives complete specifications of *Columbia* Venetian Blinds, and also tells how they help to increase the daylight in the darker parts of rooms by as much as 100%. For your copy address The *Columbia* Mills, Inc., 225 Fifth Ave., New York City.

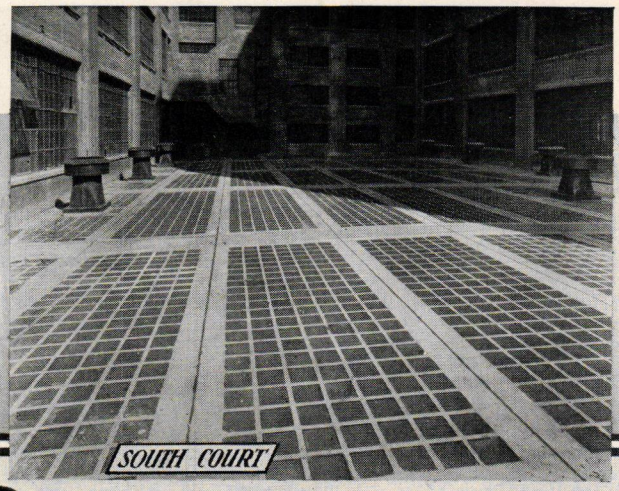
Name.....

Address.....

City.....

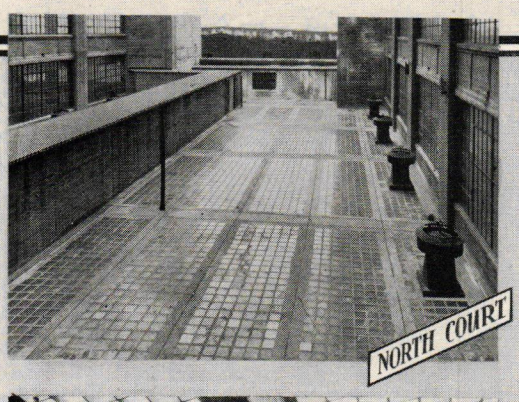
P.-6-29



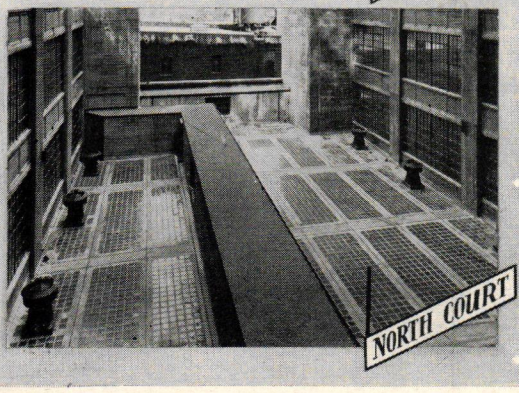


OVER 20,000 SQ. FEET OF TRANSPARENT ROOFING *in the new Transportation Building*

NEW YORK DOCK CO., BROOKLYN, N.Y.







Russell G. Corey, Architect and Engineer
L. E. Driver, Chief Engineer

Daylight, in even quantities, streams through thousands of squares of TRANSPARENT ROOFING, providing the individuals and organizations that have chosen the Transportation Building as their place of business with many advantages that are not afforded to tenants of other buildings of similar nature.

One large manufacturer of intricate machinery chose this building and profits by the virtues obtained from remarkable daylighting afforded by TRANSPARENT ROOFING.

The photos plainly tell the story — better than any words can express. Note, that TRANSPARENT ROOFING is an integral part of the roof itself. This unobstructed and valuable space can be walked on and is used for recreation, daily. TRANSPARENT ROOFING is as strong, safe and lasting as the four walls of the building and eliminates maintenance costs found universally in other types of roof lighting.

THE AMERICAN BAR LOCK CO., INC.
3730-30th Street, Long Island City, N. Y.

THE AMERICAN BAR LOCK CO., INC.
3730-30th Street, Long Island City, N. Y.
Please send us your interesting new literature and specifications, without obligation on our part.

Name .....

Address .....

PIN THIS COUPON TO YOUR LETTERHEAD

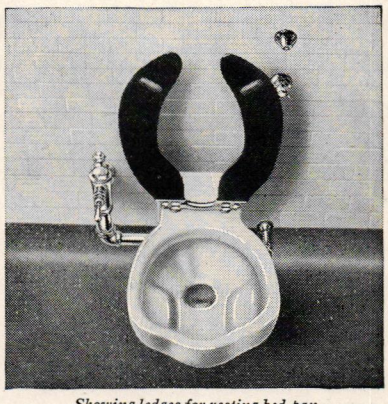


Design by James B. Clow & Sons, patents pending

The New Clow HOSPAN Closet

In hospitals equipped with Clow Hospan closets, a very unpleasant duty of the nurses is made easier. With Hospan closets installed in every patient's room or ward bathroom, carrying bed pans through halls to distant cleansing rooms is avoided.

Besides, the Hospan serves all the usual purposes of a closet, with all the usual dependability that makes Clow closets so suited for rigorous hospital work.



Showing ledges for resting bed pan —and outlet for cleansing jet

Furthermore, the Clow Hospan closet is designed so that splashing on floors and attendant's clothing is absolutely avoided.

This practical fixture is just one of a long line of Clow special hospital equipment.

JAMES B. CLOW & SONS
201-299 N. Talman Ave., Chicago
Sales Offices in principal cities

CLOW

PREFERRED FOR EXACTING PLUMBING SINCE 1878



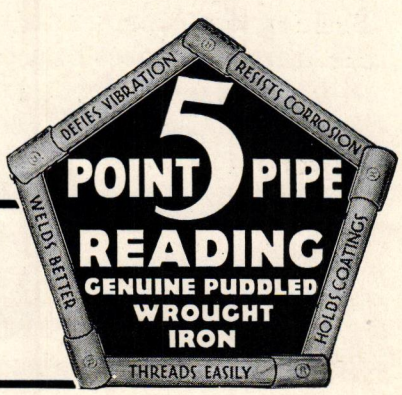
SAY good-bye to Reading 5-Point Pipe when it is installed—you'll probably never see it again during your life or the life of the building!

Once in, Reading 5-Point Pipe is in to stay. This pipe is made of Genuine Puddled Wrought Iron, and Genuine Puddled Wrought Iron has proved, time after time, that it will last for generations! Filaments of rust-defying silicious slag are distributed uniformly throughout the structure of the metal by the puddling process. And Reading 5-Point Pipe makes leak-proof joints because it threads so sharply and easily.

At a moderate price, Reading 5-Point Pipe gives proved protection. The name "Reading" is your guarantee.

READING IRON COMPANY, Reading, Pennsylvania

Atlanta · Baltimore · Cleveland · New York · Philadelphia · Boston
Cincinnati · St. Louis · Chicago · New Orleans · Buffalo
Houston · Tulsa · Seattle · San Francisco · Detroit
Pittsburgh · Ft. Worth · Los Angeles · Kansas City



GENUINE PUDDLED WROUGHT IRON
READING PIPE
DIAMETERS RANGING FROM 1/8 TO 20 INCHES

AMERICA NEEDS MORE GARAGES IN HER CITIES



THE ROYAL GARAGE at Montreal, Canada—Hobbs and Hyde, Architects, was originally built in six stories to accommodate 425 cars. As traffic demands increased, two extra floors were added, bringing the capacity up to 550 cars.

Royal Garage adds two more Stories

AS the number of motor cars per capita is rapidly increasing, d'Humy Motoramp Garages are frequently designed so that extra floors may be added to keep pace with the demand for parking accommodations. The garage featured here is only one of many which have expanded by adding extra storage floors.

There is a fine opportunity for an architect in your city to plan parking garages near the large office buildings, department stores and hotels. The garage industry is the only distinctly underbuilt industry in America.

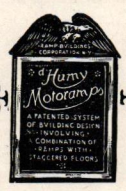
Ramp Buildings Corporation offers you the experience accumulated in consulting in the design of 225 garages. You can consult us freely on any garage matters—entirely without obligation. Let us send you our booklet "The Modern Garage."

RAMP BUILDINGS CORPORATION

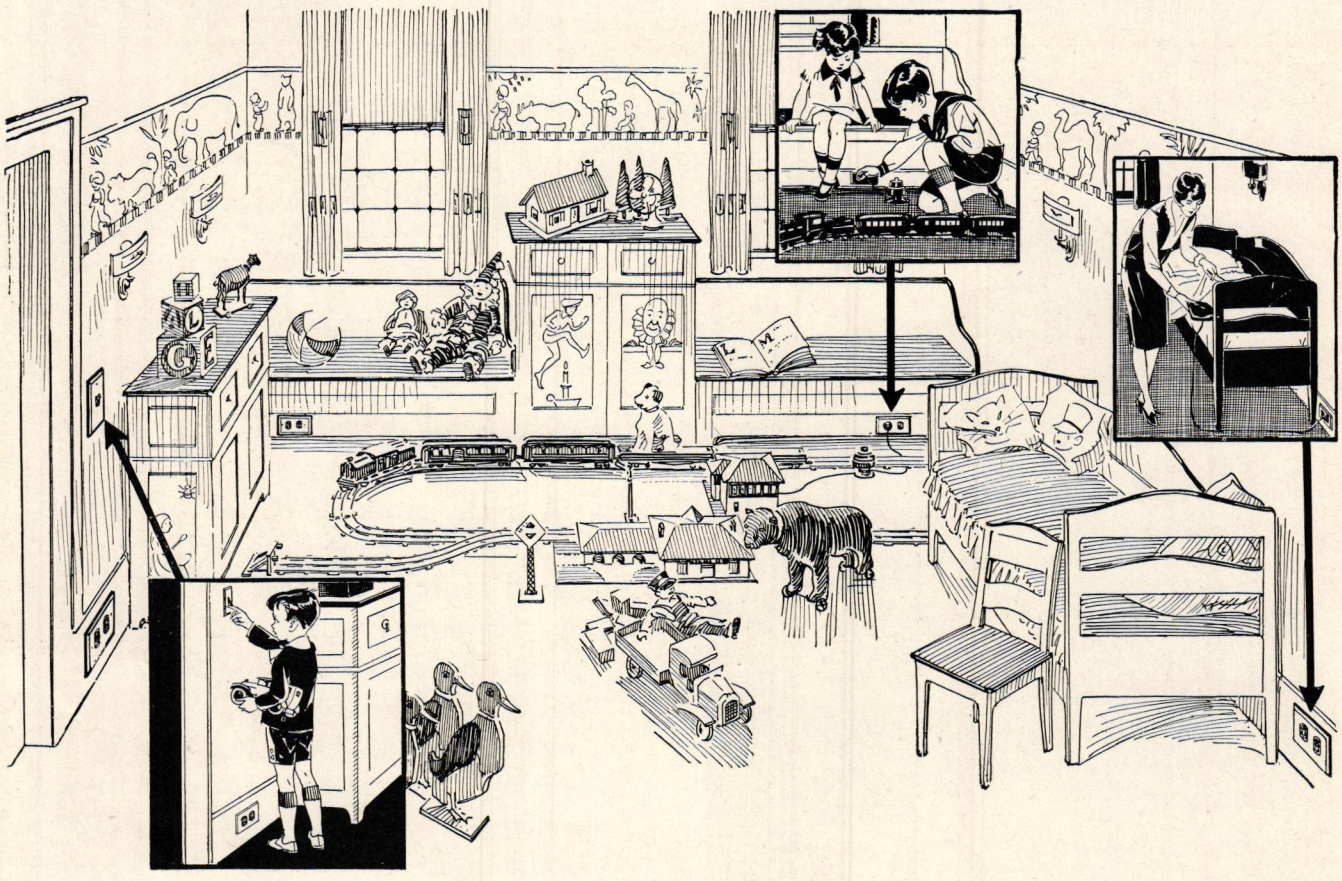
21 East 40th Street New York, N. Y.

RBC-138

GARAGE CONSULTANTS ON PROMOTION

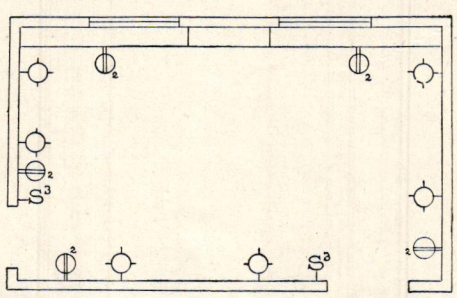


ENGINEERS AND GARAGE MANAGEMENT



A good wiring layout for the children's room

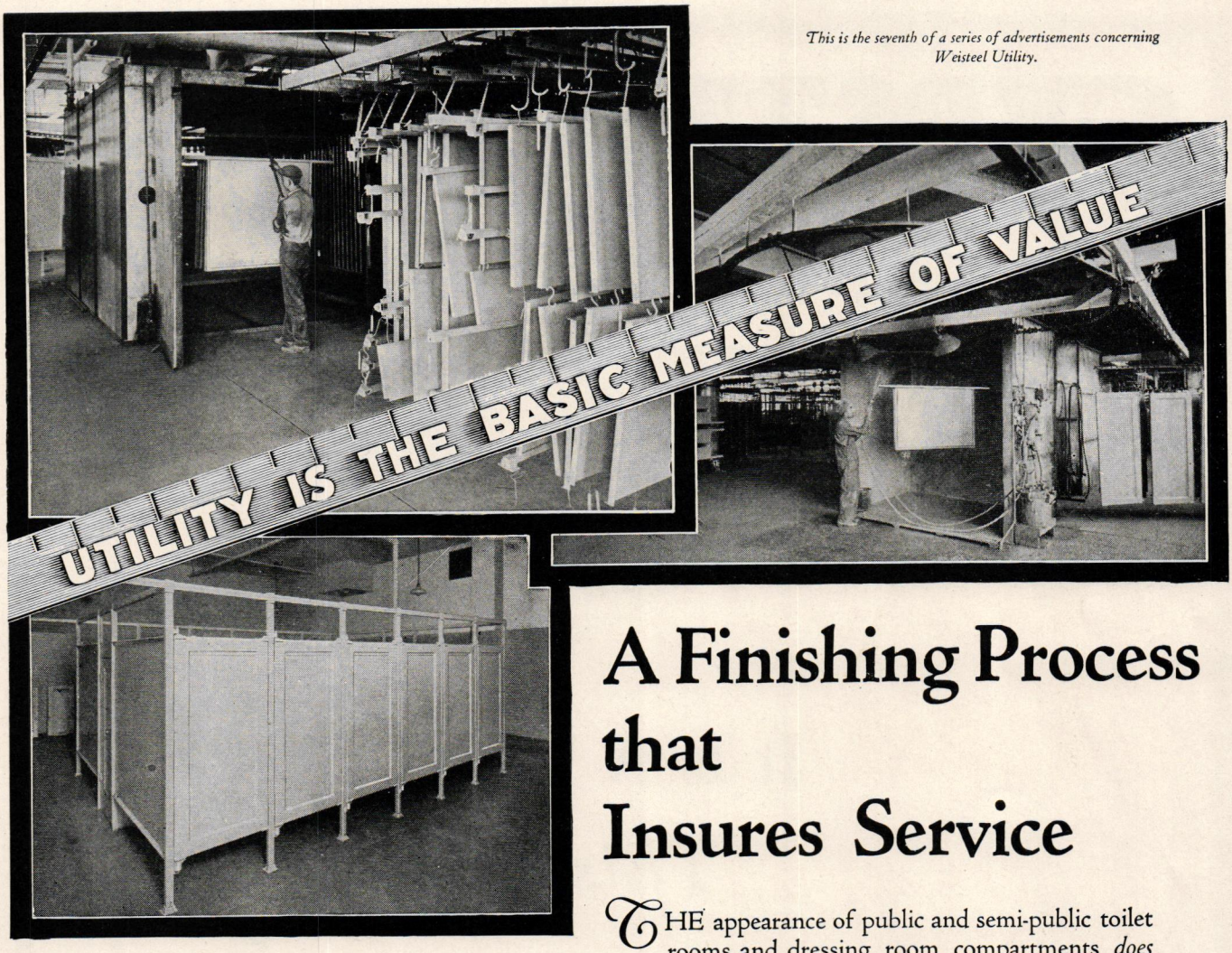
How important is adequate electric wiring in the children's room! Once a single drop-light got by. Today handy switches are necessary. Plenty of convenience outlets also must be provided for lights... the heater . . . the fan . . . the electric toys. Every builder looks to his architect to provide the comforts and convenience of good wiring. The General Electric Wiring System helps you to fulfill your client's expectations. By specifying it you provide lasting comfort with economy and the permanent satisfaction derived from using the best materials. General Electric guarantees the quality of all the materials... inside of the walls and out.



GENERAL ELECTRIC WIRING SYSTEM

MERCHANDISE DEPARTMENT – GENERAL ELECTRIC COMPANY – BRIDGEPORT, CONNECTICUT

This is the seventh of a series of advertisements concerning Weisteel Utility.



The above pictures show why Weisteel products insure satisfactory service to users. Here are two views from the finishing department—Upper left is one of the enameling ovens, and upper right is a compartment section receiving a spray of paint. Lower left is a typical Weisteel installation.

A Finishing Process that Insures Service

THE appearance of public and semi-public toilet rooms and dressing room compartments *does* materially affect their serviceability. Such equipment must always present a clean, sanitary appearance despite the most destructive punishment. Compartments that necessitate frequent refinishing, cannot, for obvious reasons, be serviceable.

WEISTEEL Compartments are finished in either a prime coat or baked enamel. For shower layouts, a special red-oxide finish, baked on at 350° F. is applied. Modern factory equipment and the high quality of materials used assure serviceable finishes for WEISTEEL products.

The superiority of WEISTEEL finish is but one of many outstanding features. These compartments are as perfect in every detail as we know how to make them. May we send you complete details? There is no obligation. · . . HENRY WEIS MFG. CO., INC., Elkhart, Indiana.

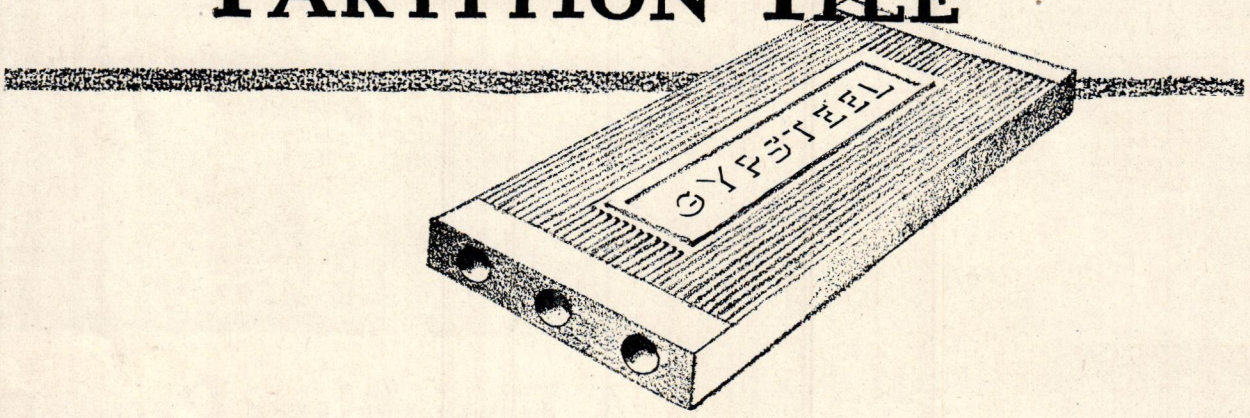


WEISTEEL

SHOWER STALLS-COMPARTMENTS-CUBICLES

GYPSTEEL

PARTITION TILE



It Is A Better Tile

This Is Why !

GYPSUM Partition Tile have long had the place of high regard they have merited. Here, however, is a *better* gypsum tile. Better because the gypsum in it is pure. Pure because each step of its conversion from phosphate rock by the Gypsteel Process is a scientifically exact operation. There can be no error.

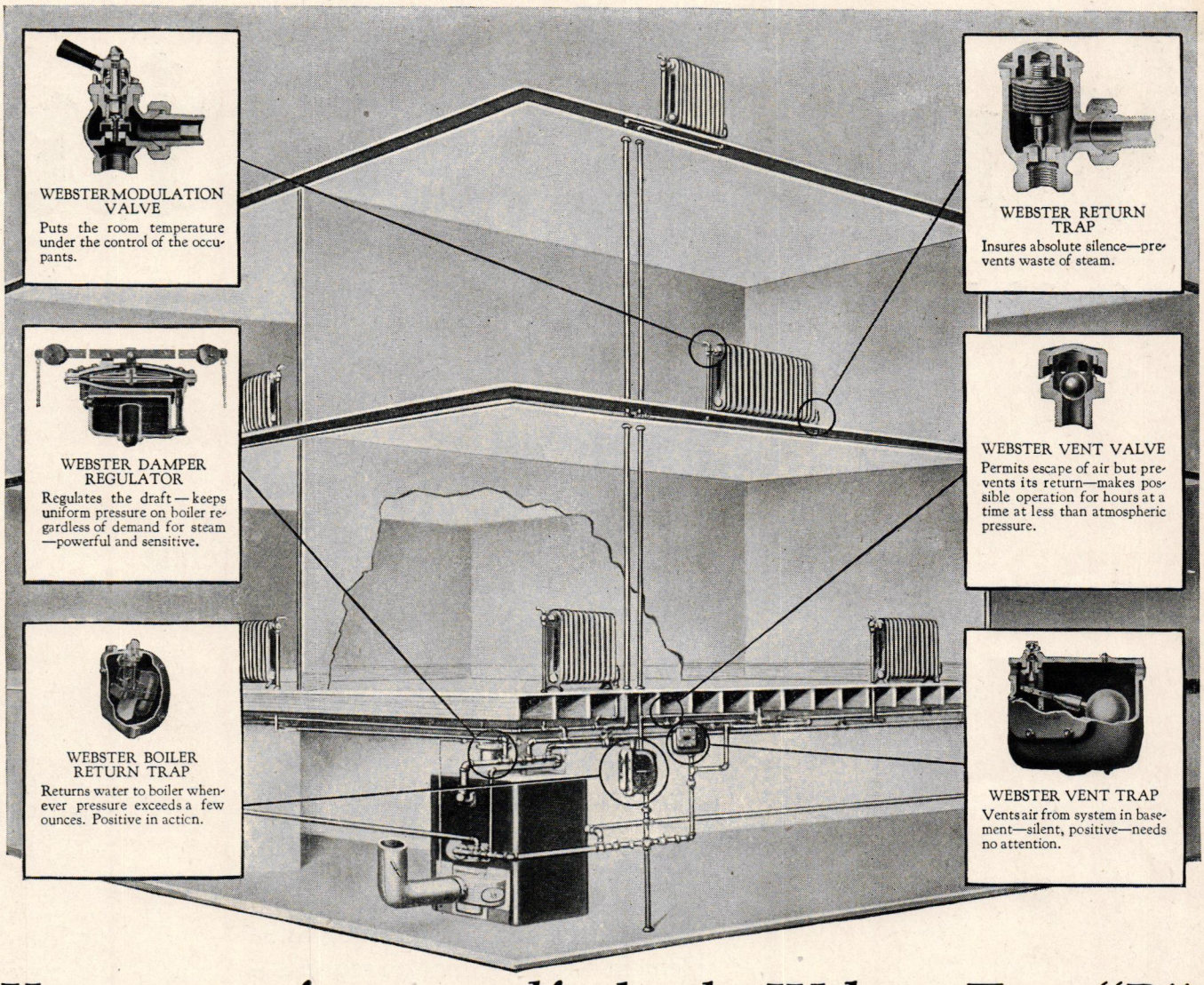
The gypsum put in this Gypsteel Partition Tile is stronger and tougher. It is stronger and tougher because the Gypsteel Process not only guarantees the purity of the gypsum but scientifically controls its crystal formation. The crystals in it are uniform in size and shape. They *bind together like bricks in a wall*.

This Tile is less liable to breakage in erecting, handling and shipping. This, of course, cuts down labor costs and breakage losses. Yet, this better tile costs no more.

STRUCTURAL GYPSUM CORPORATION

General Offices:
Linden, N. J.

Sales Offices:
In Principal Cities



WEBSTER MODULATION VALVE
Puts the room temperature under the control of the occupants.

WEBSTER RETURN TRAP
Insures absolute silence—prevents waste of steam.

WEBSTER DAMPER REGULATOR
Regulates the draft—keeps uniform pressure on boiler regardless of demand for steam—powerful and sensitive.

WEBSTER VENT VALVE
Permits escape of air but prevents its return—makes possible operation for hours at a time at less than atmospheric pressure.

WEBSTER BOILER RETURN TRAP
Returns water to boiler whenever pressure exceeds a few ounces. Positive in action.

WEBSTER VENT TRAP
Vents air from system in basement—silent, positive—needs no attention.

You can see for yourself why the Webster Type "R" System is just as Simple as it is Safe

THE ABOVE ILLUSTRATIONS show the extreme simplicity of this improved open return line system, together with the Webster equipment that makes the Type "R" System quiet, efficient and safe.

The Webster Modulation Valve is DIFFERENT from the ordinary supply valve—it contains a patented arrangement which admits steam to the radiator in progressive volume, varying with the lift of the valve piece. Webster Return Traps attached to the radiator outlets hold the steam in but permit the passage of air and water. All air is vented in the basement and the water is returned automatically to the boiler by Webster Type "R" Basement equipment.

The combined action of these Webster devices:

1. Provides continuous and thorough discharge of condensation at a temperature below that of steam—quick heating up, no air pockets, no water-logged radiators, no water hammer.
2. Retains the steam in the radiators until condensed—no waste circulation.
3. Eliminates noises, fuel odors and water leakage.
4. Assures return of water to boiler under all conditions and circulation with only ounces of pressure.
5. Safeguards the owner against excessive fuel costs, repairs and frequent attention.

A system you can specify with complete confidence in all types of buildings requiring 1,000 to 16,000 sq. ft. of radiation. The coupon will bring you complete description of system and apparatus.

- since 1888 **Webster** *Systems of Steam Heating*

The Webster Steam Heating Specialist in your vicinity can help you in working a Webster Type "R" System into your next fine residence plan.

WARREN WEBSTER & COMPANY, Camden, New Jersey. a. R4

Please mail Bulletin B-600, describing the Webster Type "R" System of Steam Heating to

Name..... Street..... City.....

P.P.-6-29

Von Duprin

Self-Releasing Fire Exit Latches

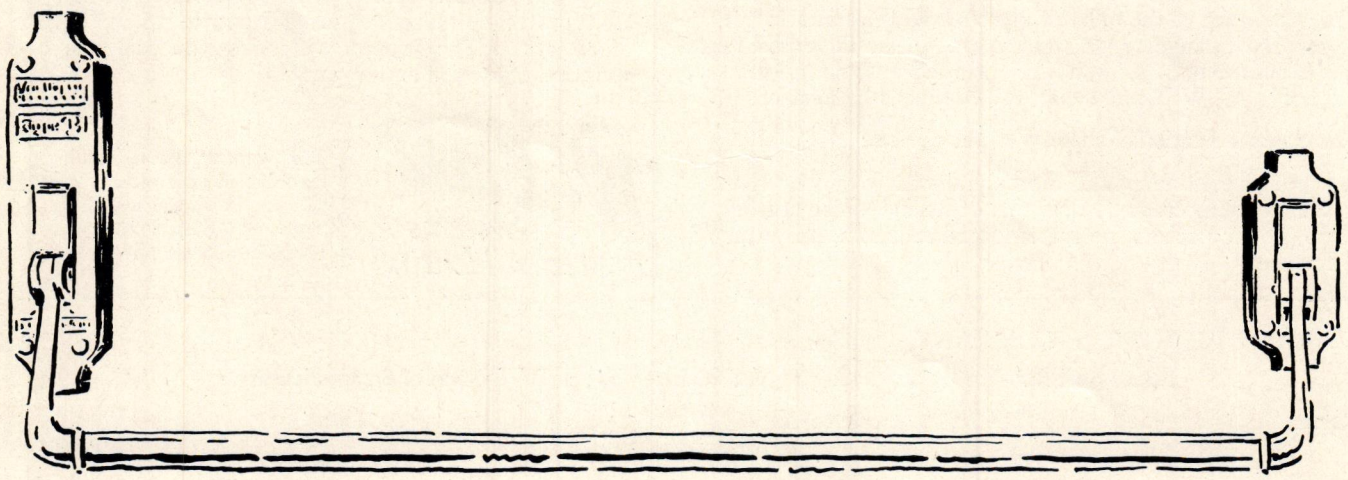
Announcing a Catalog of Rare Interest To Architects

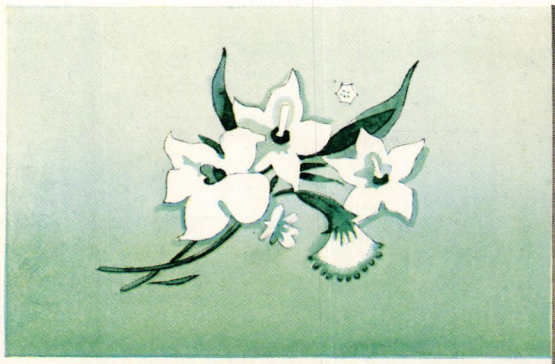
We are now prepared to supply a complete line of Von Duprin devices for listed swinging hollow metal and metal clad Paneled Fire Doors —these devices being listed as Standard by the Underwriters' Laboratories. Complete information will be found in our new Catalog Supplement No. 29V, sent on request—

Von Duprin

Underwriters' Laboratories Listed Fire and Panic Exit Door Devices

VONNEGUT HARDWARE CO.
Indianapolis, Ind.





Pleasant memories



A PATIENT whose life has been saved at a hospital goes home . . . and grumbles about the food that was served him. Another forgets the fine care she received . . . remembers only the disturbing clatter of footsteps down the corridor which kept her awake at night—or the depressing bleakness of her room. The great work that the hospital is accomplishing is overlooked . . . the drive to build the new wing receives only niggardly support from the public.

Now let us narrow this discussion down to *hospital decoration*—a subject which the average hospital executive dismisses as of slight importance. No one, of course, advocates taking money away from the patients and squandering it on "elaborate" interiors. To be really helpful, a suggestion must be simple and economical.

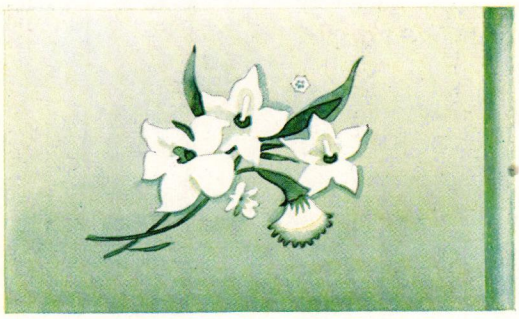
Suppose that we have a bare minimum to spend on a private room. What is the most that we can do with it? Well, for one thing, colored paint costs no more than white. We can paint the ceiling and walls in some pleasant, restful tint. Finally, instead of installing a lifeless, colorless floor, we can—without being extravagant—put in a floor of two-tone *Sealex* Jaspé Linoleum (brown, as illustrated on this page, for example). Wall, ceiling and floor will blend into a pleasant color harmony—and the whole room will be cheerful and inviting.

Now suppose that we have a minimum to spend on the hospital's main entrance hall. We certainly want the entrance of the building to breathe cheerfulness and hope —*not* dark, dingy gloominess. What is the most we can accomplish? Finish the walls with an inexpensive "stippled" or "grained" treatment. Then, at small cost, we can install one of the more decorative resilient floors. Sheets of heavy cork-composition are cut into tiles of any desired shape or size. Various colors are combined in hundreds of different designs, with or without borders. On the next page you see a miniature color chart, illustrating only a few of the colors available.

In both the private room and entrance hall, the inexpensive cork-composition floor stands out as a positive decorative unit. It lessens the need for the "fixings" which are usually barred from a hospital interior for sanitary reasons.

Looked at from the practical side, *Sealex* Linoleum and *Sealex* Treadlite Tile floors

(Continued on next page)



FLOORS *that leave pleasant memories*

(Continued from preceding page)

have everything to recommend them for hospital use. They are quiet underfoot, resiliently comfortable, famously durable. The newly invented *Sealex Process* renders them immaculately sanitary and easy to clean.

When you want floors of this type, you'll find Bonded Floors Company a pleasant organization to do business with. Designing floors is only one side of the complete Bonded Floors service. We will give you expert assistance on every phase of your hospital-floors problem—will put you in touch with an experienced, dependable distributor of Bonded Floors who knows how to install *Sealex* Linoleum and *Sealex* Treadlite Tiles correctly.

We have specially selected and trained our authorized distributors, with the sole idea of delivering satisfactory floors. Our Guaranty Bond against repair expense is tangible evidence of our confidence in *Sealex* floor materials and in the workmanship of our authorized distributors.

Write us for any information you may require in connection with resilient floors—for buildings old or new. Absolutely no obligation on your part, of course.

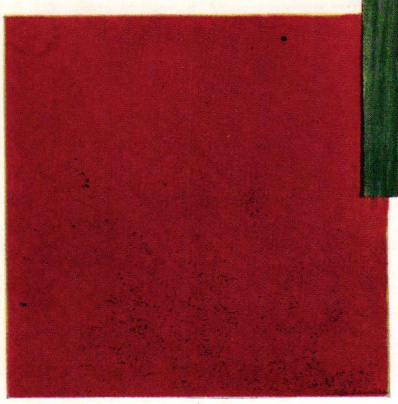
BONDED FLOORS COMPANY INC.
Division of Congoleum-Nairn Inc.
General Office: Kearny, N. J.
Authorized distributors in principal cities



This illustration shows how various colors may be assembled to order. *Sealex* Marbleized Tiles of Turquoise Blue and Platinum Gray are used here, with a solid black border. A wide variety of other colors is available.

AT RIGHT:
SEALEX Jaspé Linoleum, Green. This soft, two-toned effect is also obtainable in green, brown, dark gray and light gray.





AT LEFT:
TERRA COTTA, obtainable in several grades of *Sealex* Battleship Linoleum and also in *Sealex* Treadlite Tiles. Many other solid colors are available.

BONDED FLOORS

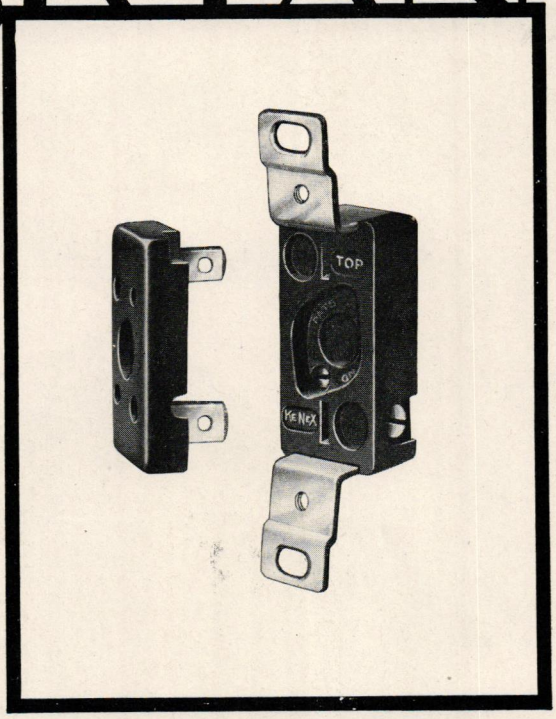
Resilient Floors Backed by a Guaranty Bond

ISSUED BY U.S. FIDELITY AND GUARANTY CO.

"Facts You Should Know about Resilient Floors in Hospitals." A booklet on hospital floor problems. May we send you a copy?

BRYANT

"KENEX" PLUG & RECEPTACLE



A PRACTICAL QUICK, SAFE METHOD FOR THE INSTALLATION OF WALL BRACKETS ETC.

BRYANT
SUPERIOR WIRING DEVICES

The Plug and Receptacle Principle applied to Lighting Fixtures for Walls

"KENEX" plug and receptacle have many advantages beside that of practical easy installation. Their use enables the electrical contractor to finish and test his work, as fixtures may be quickly attached at any time, without soldering or taping of wires. There are no protruding, taped wires dangling from outlet boxes, endangering the decorator's finishing work. A satisfactory selection of fixtures is assured as they can be easily "plugged in" "on the job" instead of on their confusing selection in crowded showrooms or from catalog. Fixtures can be readily taken down for refinishing, cleaning, replacement or when redecorating.

"KENEX" is installed in a standard switch outlet box and requires no more especial alignment or centering than is given to any switch or convenience outlet device. All wiring connections are made to binding screw terminals. The electrical connection is made by "plugging in". The mechanical support of the bracket is completed by anyone of three standard methods—threaded stud, two screw or French hook.

Complete bulletins on "KENEX" *sent on request.*

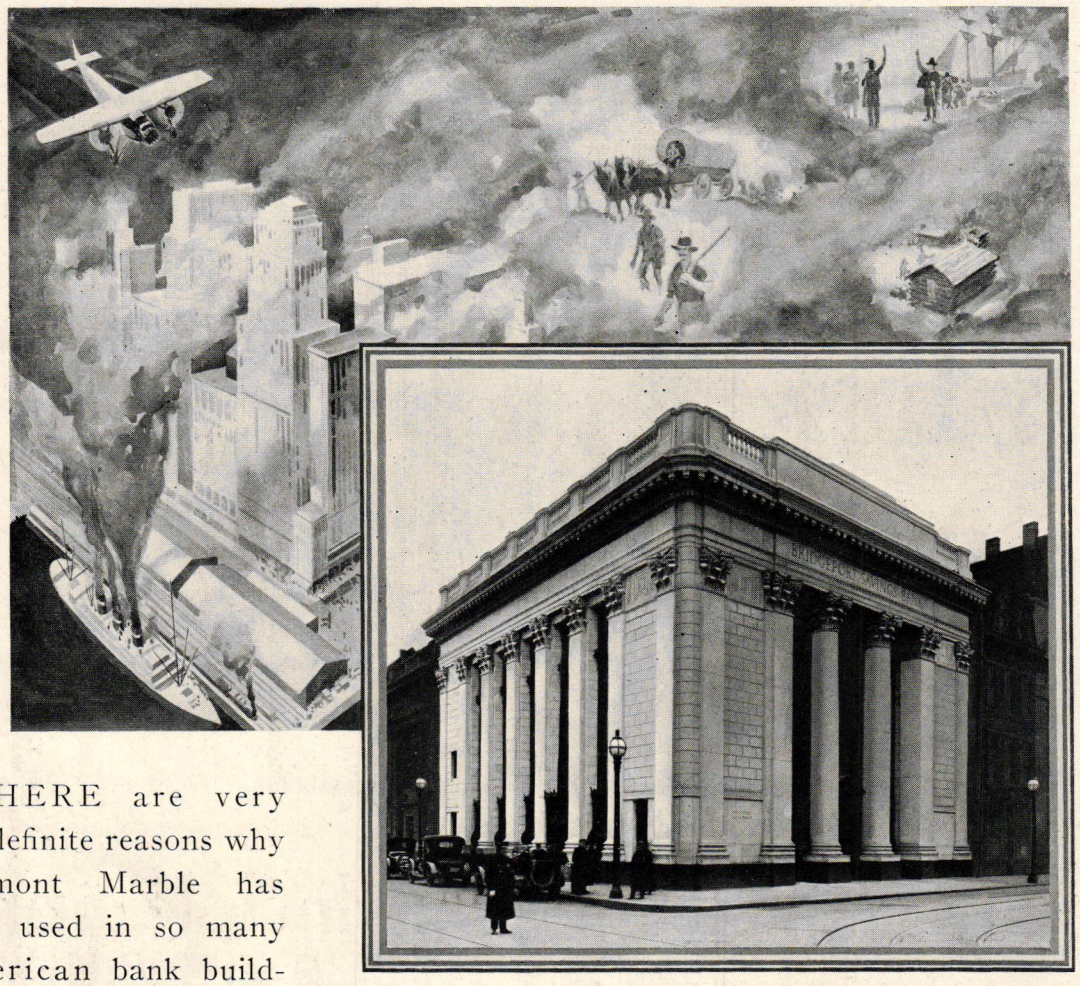
ORDER THROUGH YOUR JOBBER

THE BRYANT ELECTRIC COMPANY

BRIDGEPORT, CONN., U. S. A.

NEW YORK PHILADELPHIA CHICAGO SAN FRANCISCO

Manufacturers of "Superior Wiring Devices" since 1888—Manufacturers of Hemco Products



THERE are very definite reasons why Vermont Marble has been used in so many American bank buildings. From coast to coast Vermont Marble has followed the ship, the plough and the prairie wagon as America's matchless symbol of established culture and permanent prosperity for the past 150 years. To the banker and the public it represents sound economy in investment. It is significant of wealth and leadership wisely put to work. It is strong, enduring and beautiful.

The Bridgeport Savings Bank, Bridgeport, Connecticut . . . Vermont Imperial Danby Marble . . . Cass Gilbert, Architect.

The columns of this Bridgeport Bank are among the largest marble monoliths produced by American quarries. Work of this character calls for dependable material and special equipment in quarrying, finishing and setting. Most of all it demands craftsmanship—the skill which comes from experience.

VERMONT MARBLE COMPANY
PROCTOR, VERMONT
World's Largest Quarriers of Marble

Further information regarding Vermont Marble may be obtained from Sweet's Catalogue or from any of our Branches. In several cities we have installed marble exhibits for the convenience of architects and builders.

See our exhibit at the Bankers' Exposition, Eleven West Forty-second Street, New York, N. Y.

VERMONT MARBLE

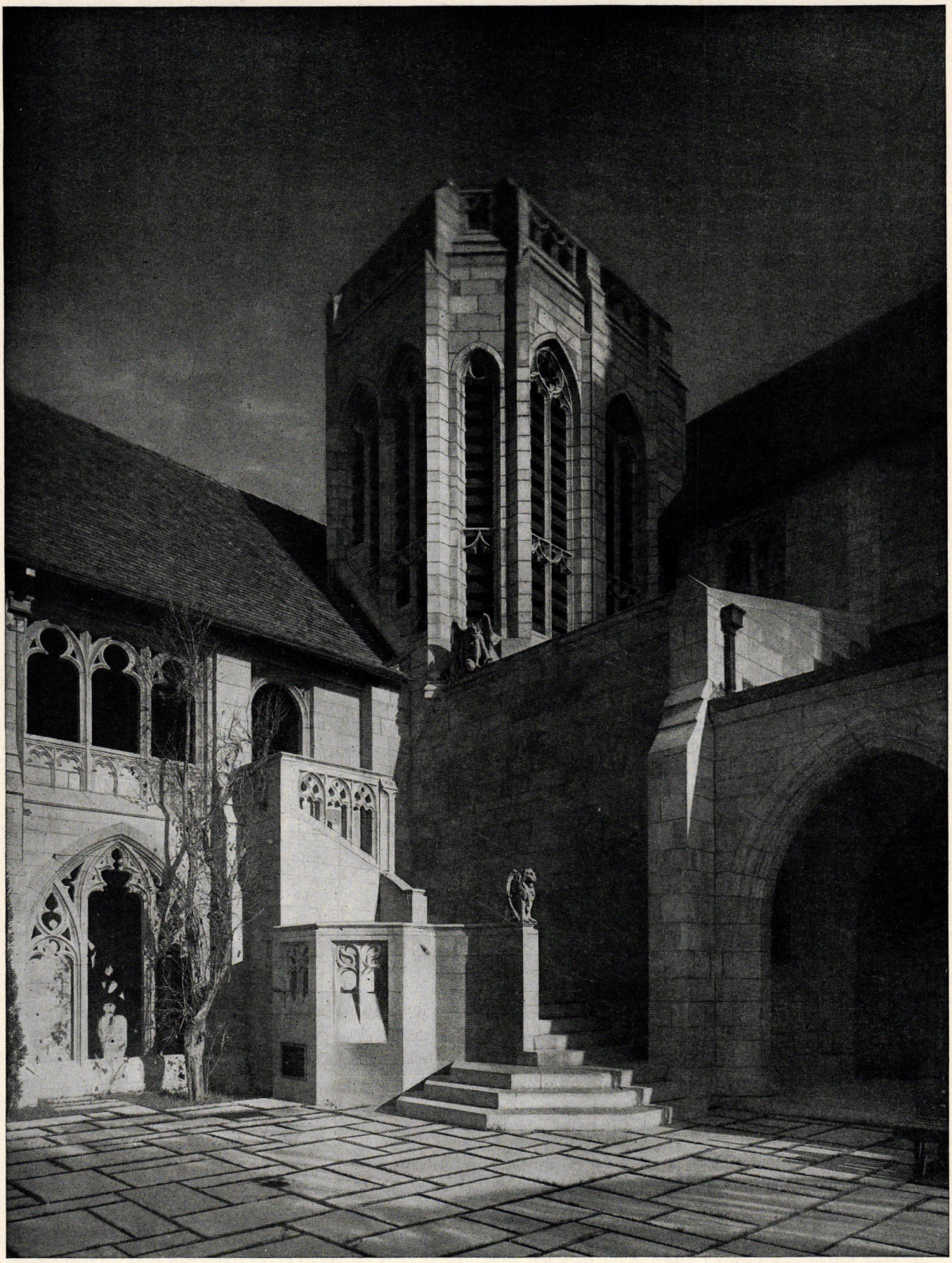


Illustrating the Library, Allentown Masonic Temple, completely furnished and paneled by DeLong Craftsmen. Schmid & Ryan, Architects.

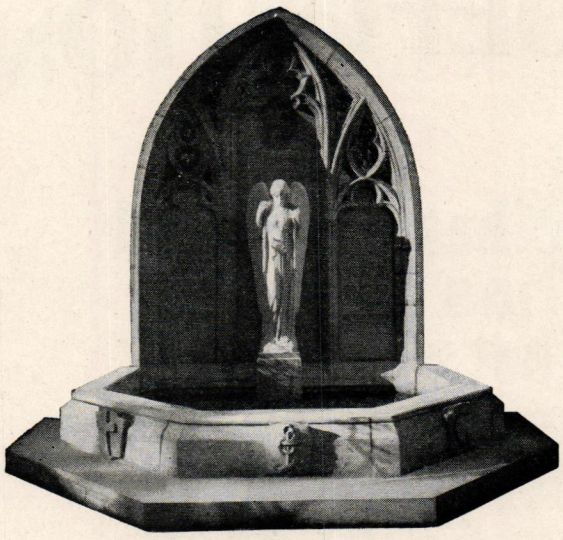
DeLong service in the planning, and DeLong craftsmanship in the execution, have resulted in some of the most notably-furnished Fraternal Buildings in the country. For our illustrative brochure, address Department G, DeLong Furniture Co., 1505 Race Street, Phila., Pa.

FURNITURE BY DE LONG

FOR CHURCHES—FRATERNAL AND PUBLIC BUILDINGS



CONCRETE FOR PERMANENCE and Firesafety



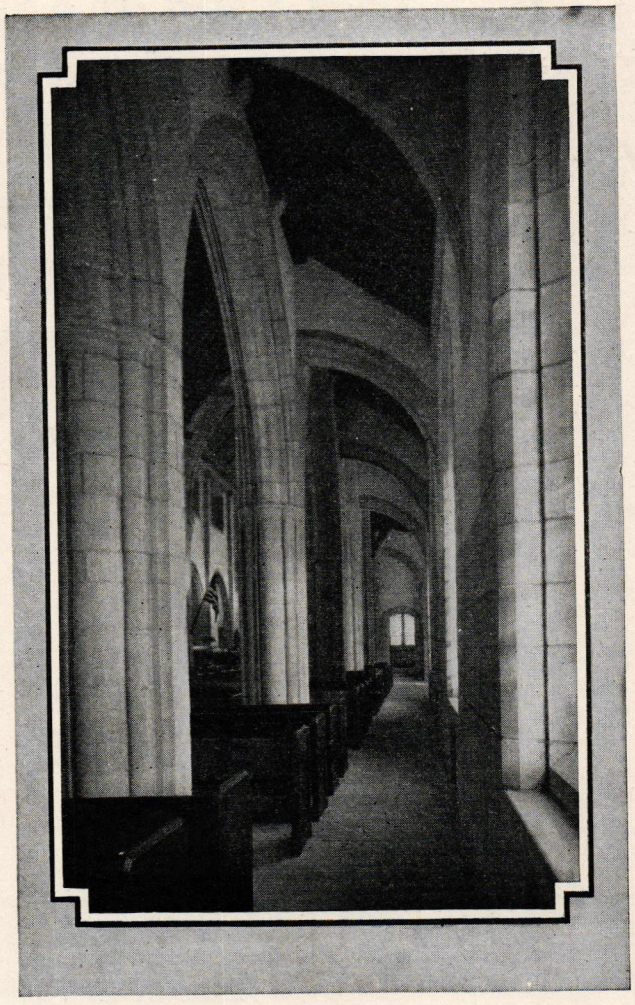
This modern prototype of the Pool of Bethesda, in the Cloister Garth, excepting only the figure of the angel, is wrought entirely of concrete cast stone.

A Classic Church built all of Concrete

A NEW and interesting technique in an age-old material—concrete—has been wrought by the patient skill of craftsmen in laboratory, workshop, and studio.

Bethesda-by-the-Sea, in Palm Beach, Florida, is a notable instance of classic design executed in concrete masonry. Gothic in feeling, yet typifying "a living, not historic style" this unusual church exemplifies well the dignity and grandeur attainable in plastic stone. Hiss and Weekes, its architects, found in concrete the one medium to translate their inspiration into actuality, completely and without excessive cost.

Common hazards of fire and storm lose their menace for structures built of concrete. We invite architects, officers of institutions and members of building committees to investigate its wide possibilities. Complete information awaits your request.



A corner of the Cloister Garth, showing the outdoor pulpit and organ tower, is pictured on the opposite page. Flagstones, masonry and embellishment—all are precast concrete. At the right is shown the application of the Gothic motif to the interior.

PORTLAND CEMENT ASSOCIATION ~ Chicago

HERE'S OUR DEFINITION

The word "Service" has been kicked around until it has lost all meaning. Here's what we mean by service. Anytime or anywhere that ASHTONE is specified, we will send an expert, *entirely at our own cost*, to show the builder the best way to lay it.

Correct us if we're wrong, but that kind of co-operation is our idea of a pretty fine grade of service to render. And it's yours for the asking.

If you want the finest Random Ashlar obtainable specify

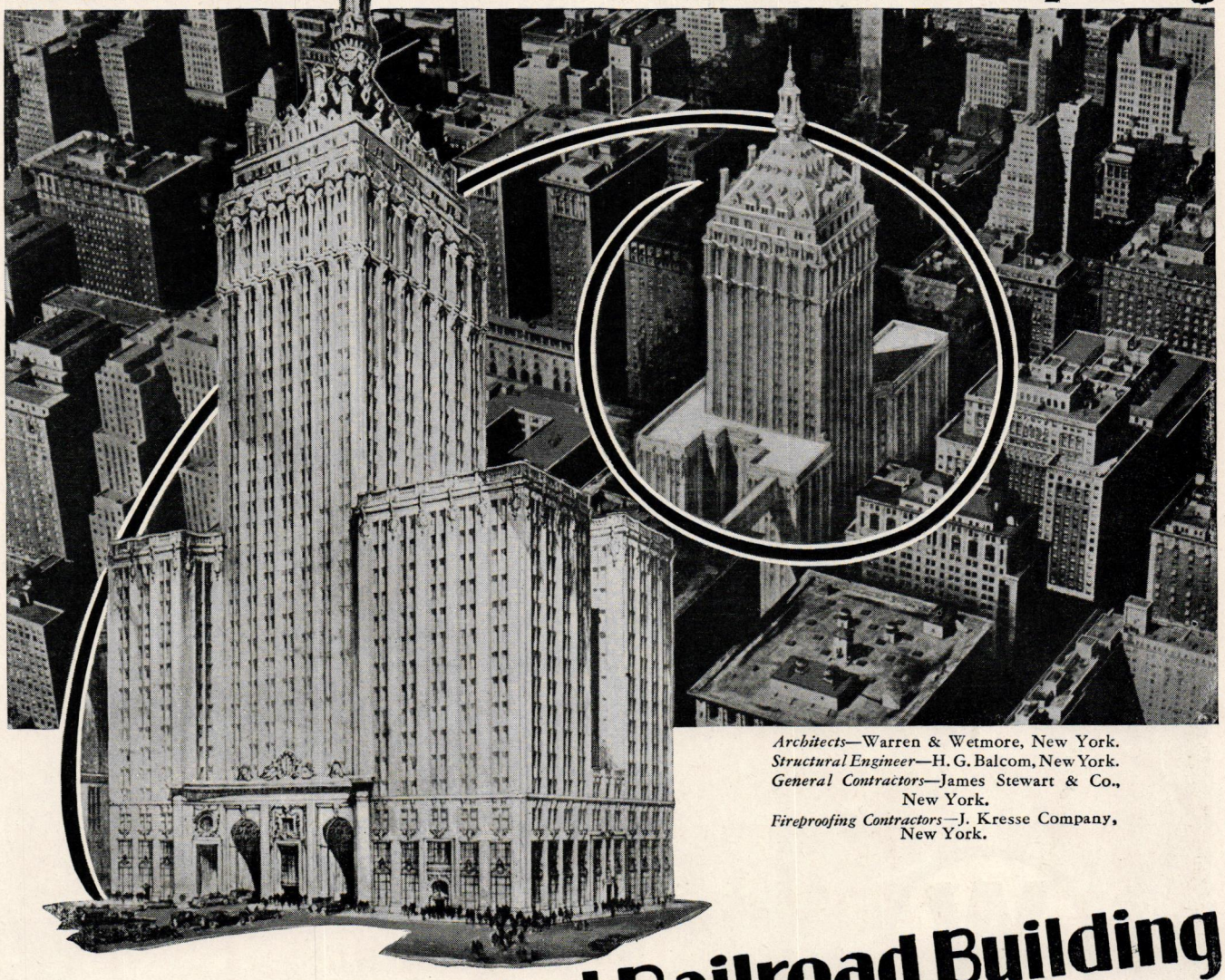
ASHTONE
TRADE MARK REGISTERED

MUCH useful information is contained in our free booklet "*The Common Sense of* ASHTONE." We will gladly mail you a copy on request.

BLOOMINGTON LIMESTONE COMPANY
Bloomington-Indiana

DETROIT NEW YORK DALLAS CHICAGO
CINCINNATI TORONTO PHILADELPHIA

American Steel & Wire Company



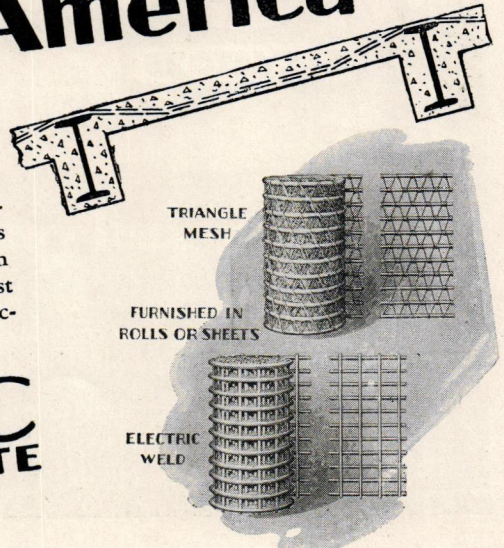
Architects—Warren & Wetmore, New York.
Structural Engineer—H. G. Balcom, New York.
General Contractors—James Stewart & Co., New York.
Fireproofing Contractors—J. Kresse Company, New York.

New York Central Railroad Building at the Gate Way of America

SPOT lighted not only by size, but by sheer beauty of proportions, the New York Central building will stand out among the sky shouldering giants of Mid-Manhattan.

In erecting this building the New York Central Railroad Company planned not only a worthy setting for the headquarters of its great transportation system, but the construction of the most modern type of office building for high class tenant occupancy.

Cinder Concrete floor arches reinforced with American Steel & Wire Company's Wire Fabric is the construction of the floor system in this mammoth building. Tests have shown that this is the strongest and most economical method of floor construction ever devised.



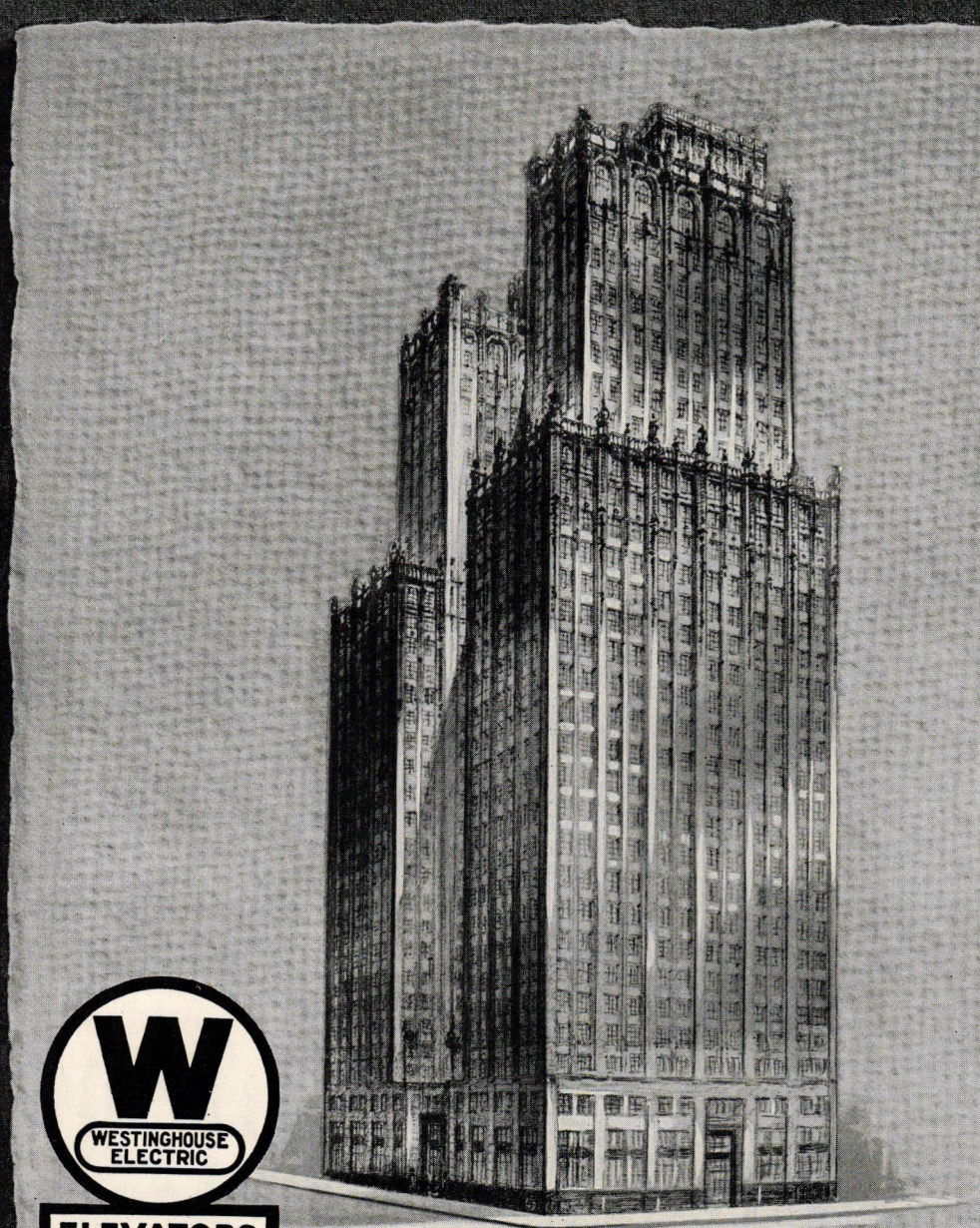
WIRE FABRIC
THE STEEL BACKBONE OF CONCRETE

American Steel & Wire Company

Subsidiary of United States Steel Corporation

208 S. La Salle Street, Chicago — 30 Church Street, New York

Other Sales Offices: Boston Cleveland Worcester Philadelphia Pittsburgh Buffalo Detroit Cincinnati Baltimore Wilkes-Barre St. Louis Kansas City Minneapolis-St. Paul Oklahoma City Birmingham Atlanta Memphis Dallas Denver Salt Lake City
U. S. Steel Products Company: San Francisco, Los Angeles, Portland, Seattle *Export Distributors:* United States Steel Products Co., 30 Church St., New York



W
WESTINGHOUSE ELECTRIC
ELEVATORS

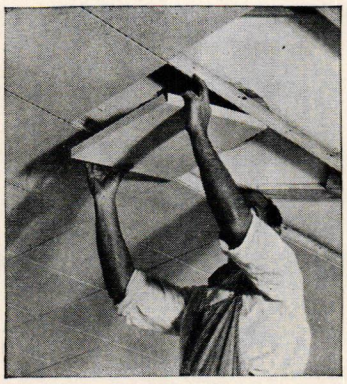
GRANT BUILDING, PITTSBURGH
H. HORNBOSTEL, *Architect*
THOMPSON-STARRETT CO., *Contractors*

Finest Type of Elevators Obtainable

The Westinghouse high speed elevators in the Grant Building will be modern for many years. The cars are automatically controlled under the supervision of operators.

Westinghouse Electric Elevator perfection makes possible highest speed and accurate landings with noticeable comfort, —smooth acceleration and deceleration.

Westinghouse Electric Elevator Company



THE JOHNS-MANVILLE CORPORATION ANNOUNCES *the acquisition of*

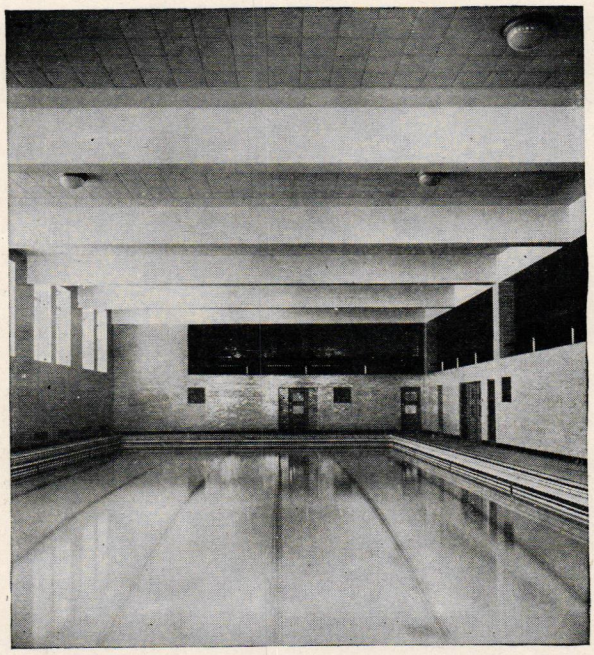
SANACOUSTIC TILE

(A Development of C. F. Burgess Laboratories, Inc.)

This interesting sound-absorbing interior finish becomes an important part of the line of the pioneer of Architectural Acoustics

THE merits of Sanacoustic Tile are already known to the Architectural profession.

By adding this splendid acoustical material to its line, Johns-Manville follows its fixed policy of leadership in the field of Architectural Acoustics.



Boy's natatorium, Oak Park High School, Oak Park, Ill.
Childs & Smith, Architects, Chicago, Ill.
Aluminum Sanacoustic Tile upon all ceiling panels.

Johns-Manville Sanacoustic Tile has a high co-efficient of sound-absorption at a low cost per unit of absorption. With Johns-Manville Banroc Wool, a fibrous mineral, as the sound absorbing element, it is permanent; its sound-absorbing qualities *remain* permanent; it is an excellent light reflector, it has an easily cleaned, sanitary surface, and it may be installed in old or new buildings in an economical manner. In new work it provides a complete substitute for metal lath and plaster on furred ceilings.

Johns-Manville Acoustical Engineers are always at the service of architects without obligation. These men welcome opportunities to discuss any problem involving the acoustics of room interiors.

Johns-Manville

SOUND CONTROL AND
ACOUSTICAL TREATMENT

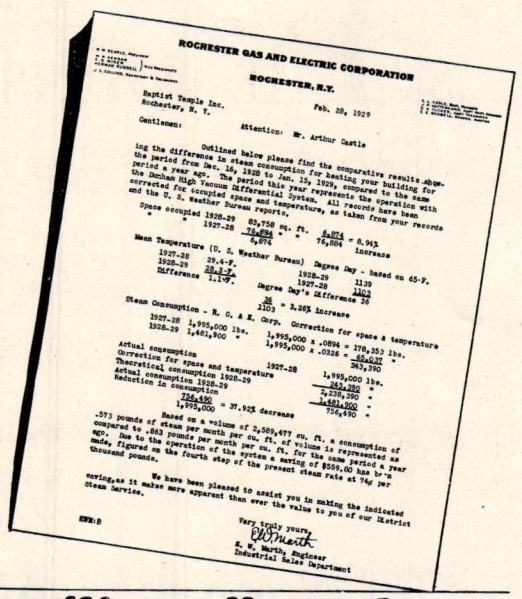
JOHNS-MANVILLE JM CORPORATION

TEMPLE BUILDING

Rochester, New York

Did it pay the Baptist Temple, Inc., to change over the heating system in the Temple Building, Rochester, N. Y., from a vacuum return line system to a Dunham Differential Vacuum Heating System? The affirmative answer to this question is found in the record of the system's operation for the period from December 16, 1928, to January 15, 1929, as compared with the same period of the preceding year.

This record, reproduced in facsimile, shows a reduction in the steam consumption of 756,490 pounds, a saving for the period of $559.80, or 37.92% decrease. The report regarding this reduced steam consumption is made by the Rochester Gas and Electric Corporation, from whom the steam was bought, and is therefore of special interest.



ROCHESTER GAS AND ELECTRIC CORPORATION
ROCHESTER, N.Y.

Baptist Temple Inc.
Rochester, N. Y.

Feb. 28, 1929

Gentlemen: Attention: Mr. Arthur Castle

Outlined below please find the comparative results showing the difference in steam consumption for heating your building for the period from Dec. 16, 1928 to Jan. 15, 1929, compared to the same period a year ago. The period this year represents the operation with the Dunham High Vacuum Differential System. All records have been corrected for occupied space and temperature, as taken from your records and the U. S. Weather Bureau reports.

Space occupied 1928-29 83,758 sq. ft. 4,874 = 6.94% increase
" 1927-28 76,884 " 76,884 "

Mean Temperature (U. S. Weather Bureau) Degree Day - based on 65-F.
1927-28 29.4-F. 1928-29 1139
1928-29 28.4-F. 1927-28 1103
Difference 1.0-F. Degree Day's difference 36

36 / 1103 = 3.26% increase

Steam Consumption - R. G. & E. Corp. Correction for space & temperature
1927-28 1,995,000 lbs. 1,995,000 x .0894 = 178,353 lbs.
1928-29 1,461,800 " 1,995,000 x .0326 = 65,037 "
243,390
Actual consumption 1927-28 1,995,000 lbs.
Correction for space and temperature 243,390 "
Theoretical consumption 1928-29 2,238,390 "
Actual consumption 1928-29 1,461,800 "
Reduction in consumption 756,490 "
756,490 / 1,995,000 = 37.92% decrease

Based on a volume of 2,589,477 cu. ft., a consumption of .573 pounds of steam per month per cu. ft. of volume is represented as compared to .863 pounds per month per cu. ft. for the same period a year ago. Due to the operation of the system a saving of $559.80 has been made, figured on the fourth step of the present steam rate at 74¢ per thousand pounds.

We have been pleased to assist you in making the indicated saving, as it makes more apparent than ever the value to you of our District Steam Service.

Very truly yours,
E. W. Meath, Engineer
Industrial Sales Department

EWM:B

Facts Concerning the Temple Building

The Temple Building is located at North and Franklin Streets, Rochester. It contains a total cubage of 2,589,400 cu. ft. and a total radiation of 27,703 sq. ft. The building was erected in 1925 from plans drawn by Gordon & Kaelber and Carl R. Traver, (associated architects). The original vacuum return line system was installed by Bareham & McFarland, Heating Contractors, and was changed over by them to a Dunham Differential System during the latter part of 1928.

The Dunham Differential Vacuum Heating System

Gordon & Kaelber and Carl R. Traver, *Associated Architects*

Bareham & McFarland *Heating Contractors*



C. A. DUNHAM CO.

DUNHAM BUILDING

450 East Ohio Street, Chicago

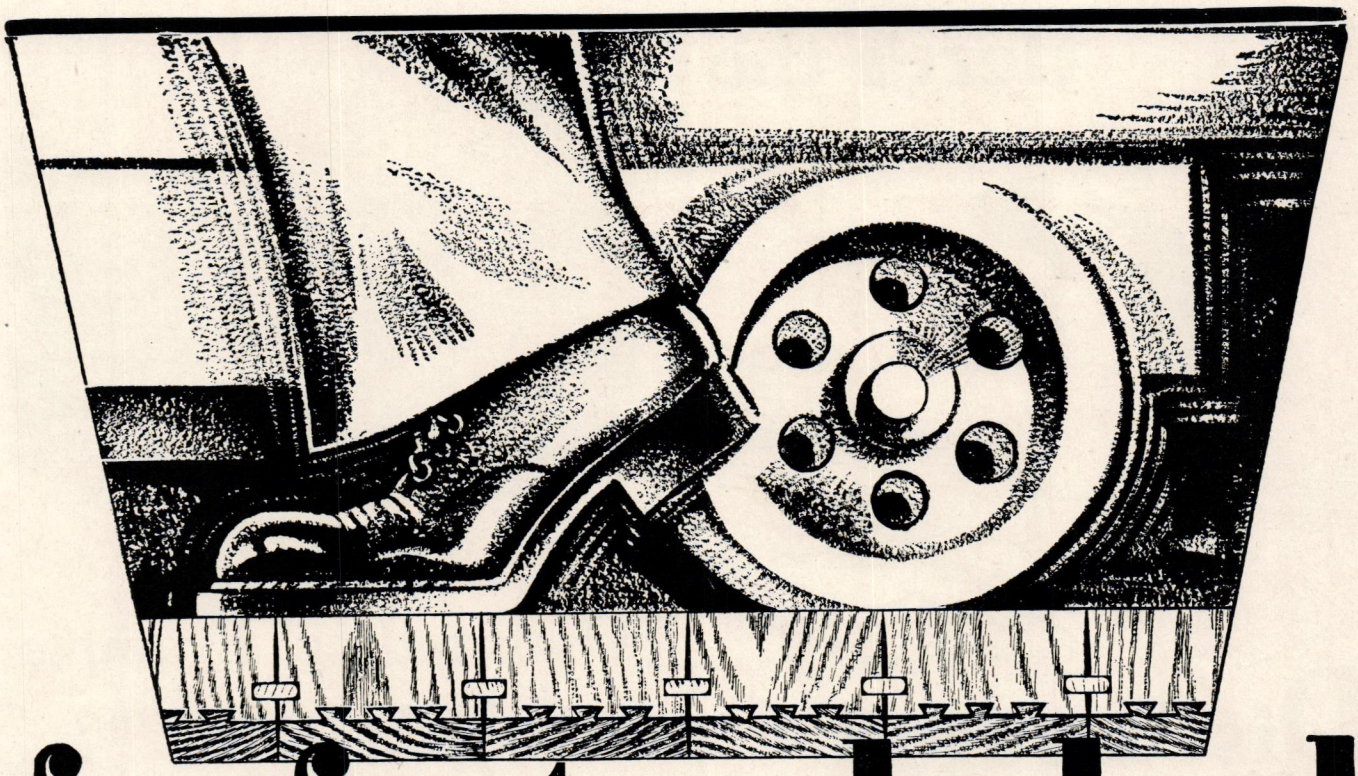
Look for the name DUNHAM

This nameplate identifies a genuine DUNHAM Thermostatic Radiator Trap



U. S. Patent No. 1644114. Additional patents in the United States, Canada and Foreign Countries now pending.

Over eighty sales offices in the United States, Canada and the United Kingdom bring Dunham Heating Service as close to you as your telephone. Consult your telephone directory for the address of our office in your city. An engineer will counsel with you on any project.



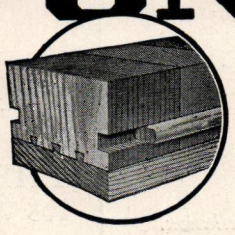
for foot and wheel *the floor ideal!*

Bloxonend makes the perfect factory floor. It's easy to walk and work on. It's smooth and stays smooth during its long life—no loose blocks to work loose from base. Heavily loaded trucks are moved over its end-grain surface with a minimum of effort (or power) and without vibration damage to trucks or cargoes. Bright, resilient, odorless, noiseless, it contributes materially to making the factory a pleasant place to work in. And it's easy to clean, too. ▲ ▲ Adopted by many of the greatest industrials in America after unsatisfactory experience with other types of heavy-duty flooring. ▲ ▲ Quickly laid in old or new plants. Let us send you sample and descriptive booklet.

CARTER BLOXONEND FLOORING COMPANY
KANSAS CITY, MISSOURI

Branch Offices in Leading Cities

BLOX-ON-END FLOORING



Lays Smooth
Stays Smooth

Bloxonend is made of Southern Pine with the tough end grain up. It comes in 8 ft. lengths with the blocks dovetailed endwise onto baseboards.

Here's the



Discouraged Superintendent

SUPERINTENDENT of Construction, they call him . . . and how he "knows his I-beams." When it comes to ventilating equipment though, he's certainly no "Book of Knowledge."

Why gamble on the construction man's ability when specification of Swartwout Rotary Ball Bearing Ventilators, shipped completely assembled and ready for erection, so thoroughly simplifies the installation job?

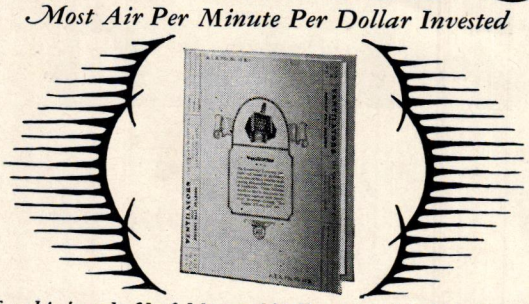
THE SWARTWOUT COMPANY
18503 Euclid Avenue, Cleveland, Ohio

Swartwout

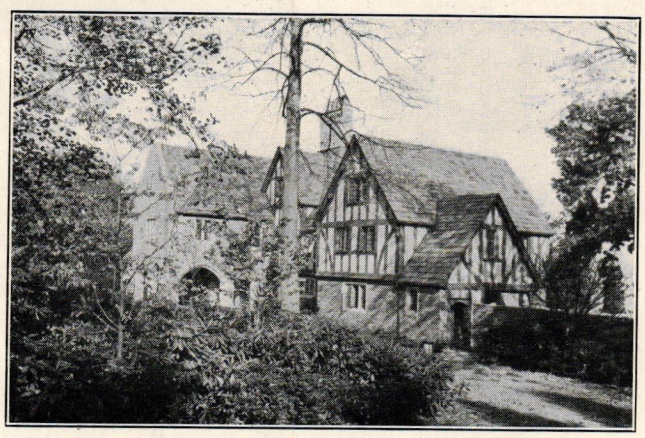
Rotary Ball Bearing Ventilators

Swartwout Ventilators MADE OF ARMCO INGOT IRON

Most Air Per Minute Per Dollar Invested



Ask for this handy file folder and bulletins on Modern Ventilation.



Residence of J. DuPratt White, Esq., Nyack, N. Y.
Frederick L. Ackerman, *Architect*

An Outstanding Example of Fire-Proof Floor Construction

More and more, fire-proof floor construction is demanded by the discriminating owner of the large residence, and by those who erect utilitarian buildings with an eye to sound investment.

The problems of laying wood floors over a fire-proof base puzzled architects and contractors for many years —until it was discovered in general practice that Nailcrete had brought the answer.

Nailcrete is an all mineral cementitious mixture, permanent, unaffected by heat or water, satisfactory from every point of view of both the architect and the contractor. Nailcrete never softens, never rots.

Nailcrete is poured in place as a reinforced, complete, self-supporting structure, or over stone or cinder concrete. Sleepers are eliminated by Nailcrete.

Our tests of Nailcrete in this and all other types of structure are complete and conclusive. The nail holding power of Nailcrete is greater than that of any similar material used in modern construction, and it weighs less than stone or cinder concrete.

Nailcrete data and specifications will be found in Sweet's Architectural Catalog. It is stocked in principal cities. Installation of Nailcrete is supervised by experienced men. Write for complete information.

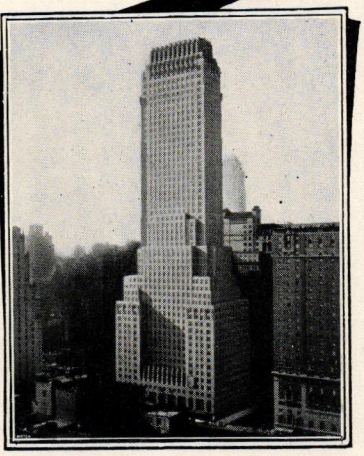
Nailed! You CAN drive nails in Concrete! IF IT'S NAILCRETE

ALWAYS SPECIFY **NAILCRETE** BY NAME

THE NAILCRETE CORPORATION
105 West 40th Street New York City

CORRECT WATERPROOFING AND DAMP-PROOFING PRACTICE

ARCHITECTS — CHARACTER OF WORK	SUGGESTED "R. I. W." SPECIFICATIONS	DATA
Dampproofing and Plaster-Bond. Interior or Exterior Masonry Walls above grade. Stain-proofing of interior plaster.	"R. I. W." No. 232.	Applied with roofers bristle brush or spray gun. A black, elastic tacky composition which resists dampness and gives perfect bond to hard wall plaster. Two coats should be applied.
Colorless Dampproofing for exterior treatment of Brick, Stone, Concrete, Stucco or other masonry exposed to the elements.	"R. I. W." Toxloxpore.	Will not darken or discolor masonry. Applied in two absorbing coats by brush or spray gun. Open masonry joints or holes should be pointed with "R. I. W." Elastic Caulking Compound. Assists in eliminating efflorescence.
Waterproofing, Integral Method, for Concrete, Stucco and other Portland Cement mixtures.	"R. I. W." Toxement.	A compound in powder or paste form which densifies and brings about the proper hydration of all Portland Cement Mixes. Should be used in proportion of 2% by weight of Portland Cement used. Adds materially to the workability and plasticity.
Waterproofing and Dampproofing for exterior of foundation walls, footings, etc. Also for preservation of wood sleepers laid in concrete.	"R. I. W." Marine Cement.	Applied with roofers brush. A black Dampproof, water proof and alkali-proof heavy bodied paint which does not require heating. For application in two coats.
Decoration and dampproofing of exposed brick, concrete, stucco, stone and other masonry.	"R. I. W." Liquid Konkerit.	A flat weather resisting cement paint made in white and colors in Priming and finishing coats.
Integral Hardening, densifying and accelerating set of Concrete, Cement Floors, brick mortar, etc.	"R. I. W." Toxmix Clear.	A colorless liquid to be used in proportion of 1 quart to the bag of cement. Increases compressive and tensile strength. Renders concrete or mortar permanently hard, dense and waterproof.



CHANIN BUILDING
On the new 56 story $12,000,000 Chanin Building in New York Toch Brothers' "R. I. W." Products were used.

THE AUTHORITY OF ACHIEVEMENT

TOCH BROTHERS

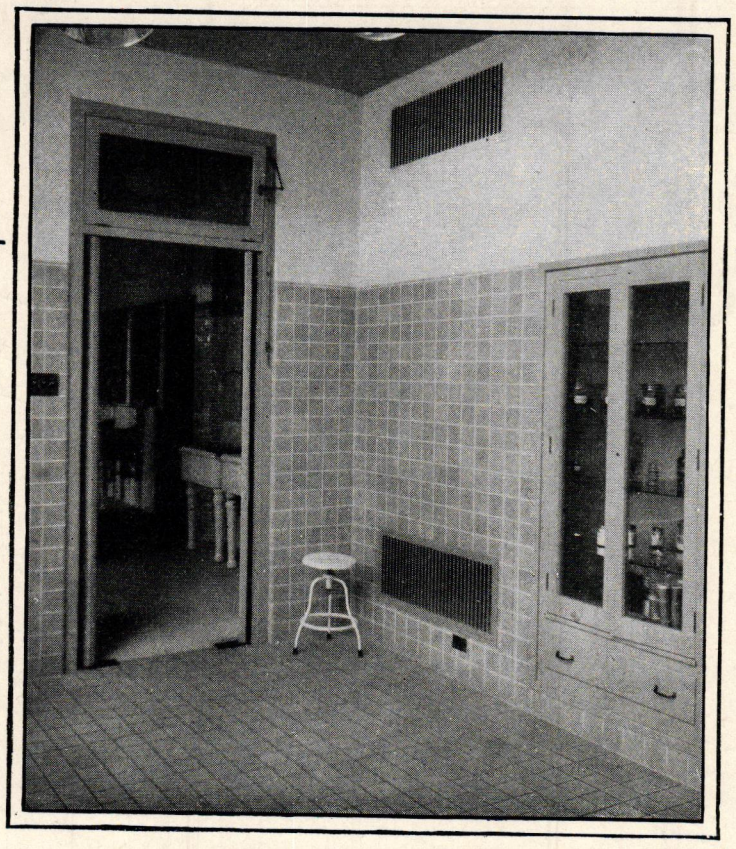
FOUNDED IN 1848

WATERPROOFING & DAMP PROOFING COMPOUNDS ~ TECHNICAL PAINTS

NEW YORK
CHICAGO
LOS ANGELES
LONDON

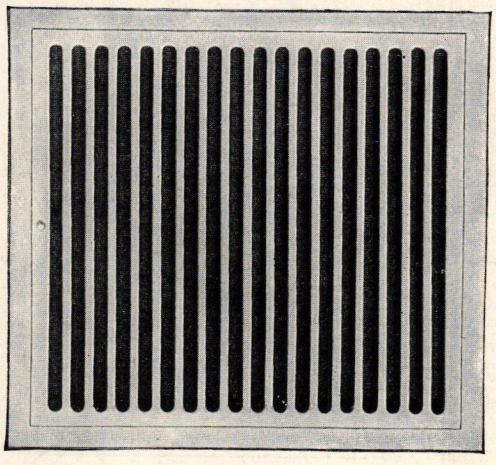
REMEMBER IT'S WATERPROOF
RIW

division of
STANDARD
VARNISH WORKS



Sanitary Grilles in the Cleveland Hospital.

FERROCRAFT GRILLES in the Hospital



Sanitary Grille, pivot-hinged to angle-iron frame. Can also be supplied without frame.

FERROCRAFT GRILLES CAST

HEATING and ventilating Grilles and Registers in Sanitary Design are included in the Ferrocraft *Cast* Grille Collection. The smooth, dirt-resisting facing and complete absence of sharp corners eliminate the possibility of germ collections. The refinement in design is due to its pleasing simplicity. Sanitary *Cast* Grilles and Registers are offered in any size and finish. Openings may be vertical or horizontal. Estimates gladly furnished upon receipt of specifications.

TUTTLE & BAILEY MFG. CO.

Specialists in Heating and Ventilating Field for 83 years

441 Lexington Avenue, New York City

The risk of human carelessness is throttled when you use CARNEY CEMENT mortar



STEUBEN CLUB BUILDING
Chicago, Ill.

Architects—K. M. Vitzthum & Company
Contractors—Paschen Bros.

THE human equation in construction is the element on which the successful execution of your projects ultimately rests. Materials may be carefully chosen and specifications perfectly prepared—but if the men fall short there is trouble. With Carney mortar the risk of human carelessness is throttled—here is a cement with inherent qualities that insure correct mixing and proper usage. The simplest mix is the right mix—Carney Cement, sand and water are the only materials needed to produce a mortar of extreme plasticity and tremendous bonding strength. If you want to avoid the dangers of mortar mixing incompetency or intentional adulteration, use this fine, time-tested, economical product.

THE CARNEY COMPANY

DISTRICT SALES OFFICES: CLEVELAND CHICAGO CINCINNATI DETROIT ST. LOUIS MINNEAPOLIS
MILLS: MANKATO AND CARNEY, MINN.

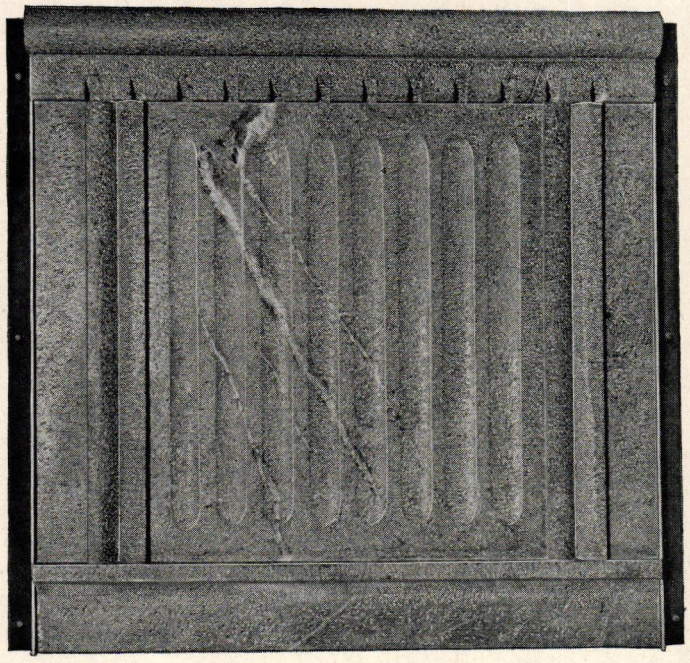
Cement Makers Since 1883

CARNEY CEMENT
for Brick and Tile Mortar

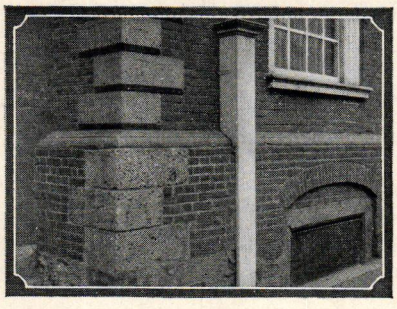
Specifications
1 part Carney Cement to 3 parts sand.

Soapstone--

an age-old material for the new-day designer



Spandrel, fabricated of soapstone—the natural weather-resisting stone. 11 pieces of stone, jointed with splines and cemented, fastened with hidden bolts to a steel frame. Assembled at the mill, complete, stone and steel, and delivered ready for erection.



Independence Hall, Phila. Erected in 1736. Soapstone used for quoins, water-tables, copings, trim of cellar windows, etc. An examination will prove the weather-resisting qualities of soapstone.

Towers that scrape the skies are carving a new path in architecture.

Seeking new expressions in design, architects are seeking also new materials with which to make their vision permanent.

Soapstone, down through the years, has been waiting for this opportunity to contribute to the greater beauty of buildings.

Today's vertical lines need relief and the deeper reveal possible with soapstone meets this requirement. Soapstone, used as a veneer, saves valuable inches of floor space — important to owners.

Natural, quarried soapstone of superior grade, identified as Alberene Stone, will give your structures effects that cannot be achieved with any other material.

We will welcome the opportunity of submitting facts regarding soapstone's qualities and possibilities.

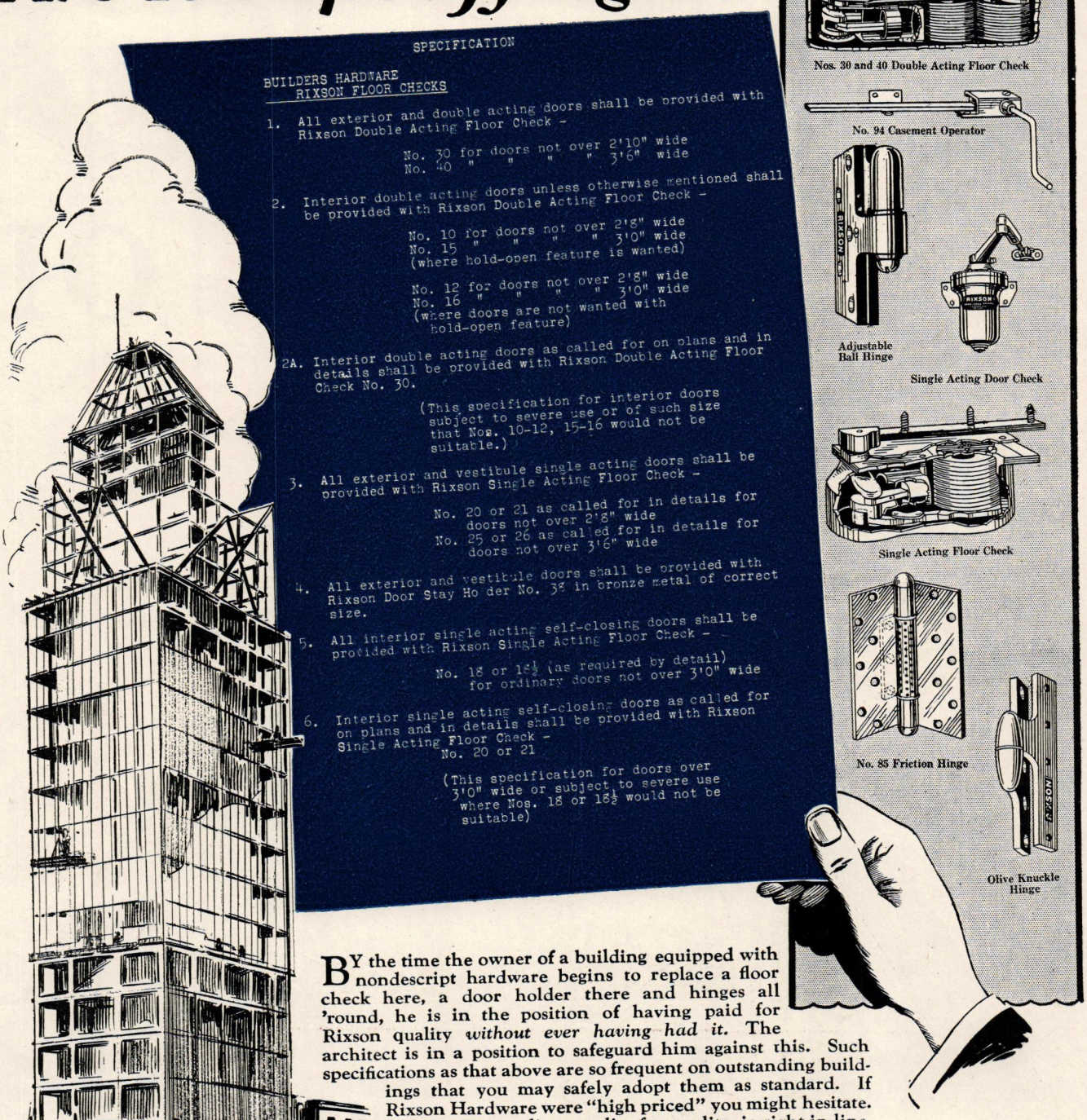
ALBERENE STONE COMPANY
153 WEST 23rd ST., NEW YORK

Branches: Chicago Philadelphia Boston Newark Pittsburg Cleveland Richmond Washington, D. C.
Quarries and Mills at Schuyler, Va.

ALBERENE STONE SPANDRELS

They're Paying for Rixson Hardware-

Are You Specifying It?



BY the time the owner of a building equipped with nondescript hardware begins to replace a floor check here, a door holder there and hinges all 'round, he is in the position of having paid for Rixson quality *without ever having had it.* The architect is in a position to safeguard him against this. Such specifications as that above are so frequent on outstanding buildings that you may safely adopt them as standard. If Rixson Hardware were "high priced" you might hesitate. But the Rixson line, quality for quality, is right in line.

SEE OUR CATALOGUE IN SWEETS

Detailed information is already in your office

RIXSON
Builders' Hardware

The Oscar C. Rixson Co., 4450 Carroll Ave., Chicago, Ill.

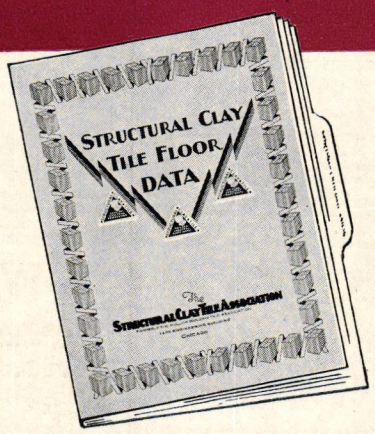
New York Office: 101 Park Ave., N. Y. C.

Philadelphia Atlanta New Orleans Los Angeles Winnipeg

FLO

OF





This engineering data book includes complete technical information relative to specifications, cost comparisons and physical characteristics of Structural Clay Tile in floor construction. A copy will be sent without charge to members of the profession making request on their letterhead. To others the price is three dollars.

ORS

STRUCTURAL CLAY TILE...

STRUCTURAL CLAY TILE floors are ideally adapted to office and factory buildings, schools, hotels, apartment houses, stores and other commercial structures of every description.

This type of floor is fireproof and sound-proof. It can be erected in a minimum of time and at any time of year regardless of temperature and weather.

Its light weight reduces the dead load on structural steel and foundations, permitting substantial economy of materials.

Architects and engineers will find the data book offered on the opposite page of great value.

STRUCTURAL CLAY TILE ASSOCIATION

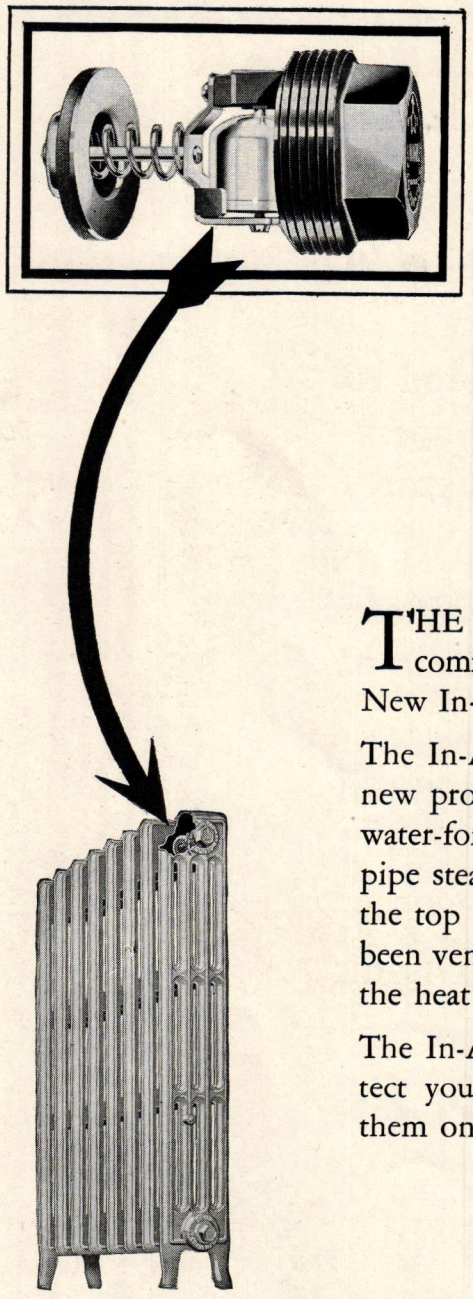
Formerly Hollow Building Tile Association

1405 ENGINEERING BUILDING CHICAGO, ILLINOIS



IN-AIRID

is not . . . just another
AIR VALVE



Features Found Only in the IN-AIRID

Complete Venting

All working parts located within the radiator—air traps entirely eliminated—insured full efficiency for the radiator.

Cannot Be Stolen

Can't be tampered with or turned upside down to prevent operation.

Entirely Invisible

Completely concealed—adds to the appearance of the radiator.

THE Architect looking for improved appliances to add to the comfort and convenience of his client will want to specify the New In-Airid on every one-pipe steam job.

The In-Airid is not just another air valve. It is designed to meet a new problem which has arisen with the recent standardization on water-for-steam radiation. When this new radiation is used on one-pipe steam there is a tendency for the steam to short circuit across the top openings and close the air valve before all of the air has been vented. This traps a quantity of air which considerably reduces the heat output of the radiator.

The In-Airid is the only successful solution to this problem. Protect yourself against complaints and embarassment by specifying them on all of your one-pipe steam jobs.

In-Airid No. 1 for steam. In-Airid No. 2 for Vaccum.

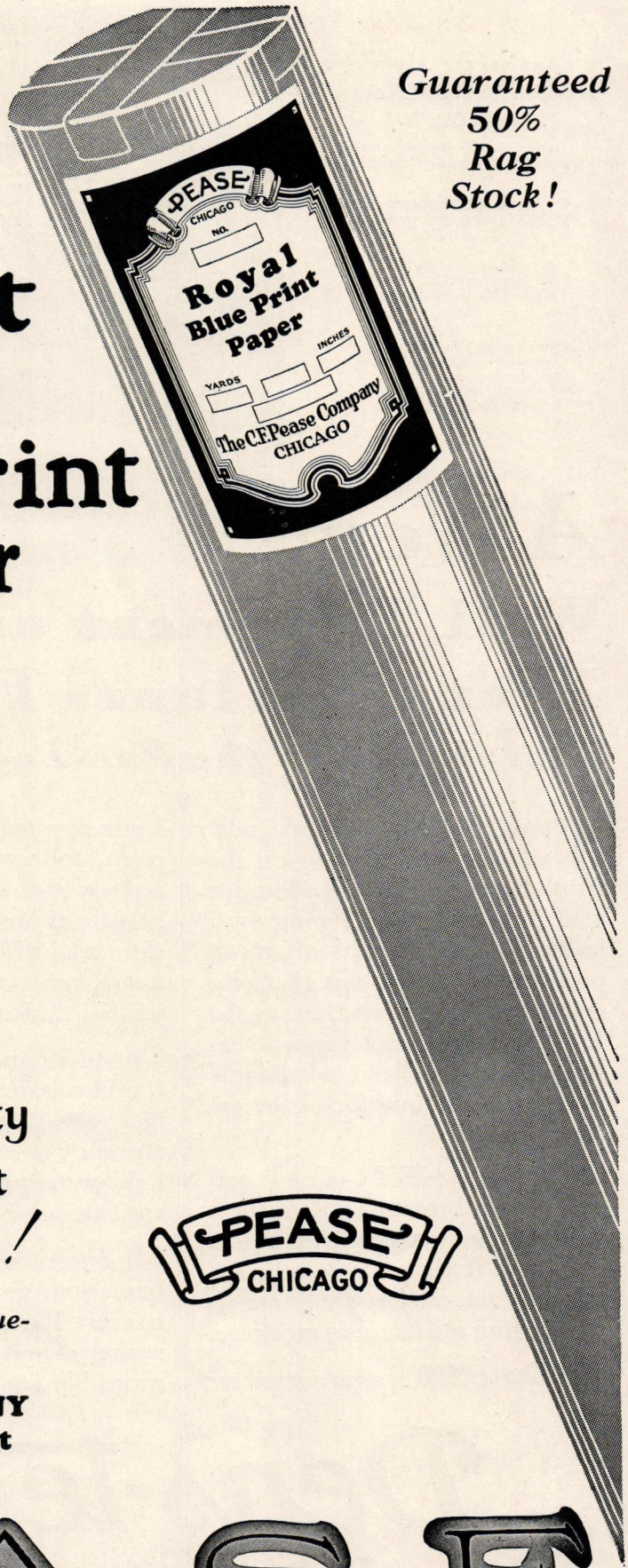
For replacement work on old-style steam radiation use the FAMOUS AIRID No. 500 or VAC-AIRID No. 510.

AMERICAN RADIATOR COMPANY

Makers of a complete line of QUALITY Heating Accessories

AIRID AND VAC-AIRID AIR VALVES · ARCO PACKLESS VALVES FOR STEAM, WATER OR VACUUM
MERCOID CONTROLS · ARCO DAMPER REGULATORS · ARCO TANK REGULATORS

7 Points About Pease Blue Print Paper



Guaranteed 50% Rag Stock!

1. Deep Blues
2. Clear Whites
3. Sharp Lines
4. Uniform Color
5. Strong Contrast
6. Non-Fading Quality
7. Service on the Dot

And More!

PEASE CHICAGO

Insist on Having All of Your Blue-Prints Made on Pease Paper!

THE C. F. PEASE COMPANY
803 North Franklin Street
Chicago, Illinois

PEASE

BLUE PRINTING MACHINERY

ATLANTIC CITY
CONVENTION HALL
Atlantic City, N. J.

Architects & Engineers:
Lockwood Greene Co., Inc.
Boston

General Contractors:
M. B. Markland Company
Atlantic City

Erected under direction of the Department of Streets and Public Improvements.

Dens-tect applied on interior of exterior walls above grade (149,000 sq. ft.), Par-Lock on all concrete surfaces plastered direct (90,000 sq. ft.).



A New Wall Treatment and Key That Supplants Furring

(Developed by the Par-Lock People)

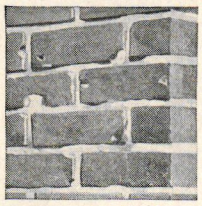
ATLANTIC CITY'S splendid new auditorium, fronting on the wind-swept ocean, has an interior wall protection in keeping with its drastic needs and its structural perfection. On ceilings the long tested Par-Lock plaster key is used and the new wall treatment developed by the Par-Lock People is used on the interior of the exterior walls.

This is *Dens-tect* —a new gun applied wall treatment that offers an impervious coating of tangible thickness. It fills every joint in the masonry and can be built out to afford lasting resistance to moisture.

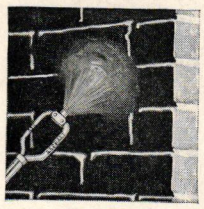
The *Dens-tect* system comprises a gun applied priming coat of asphalt, followed by a coating of asphalt and a finely graded aggregate thoroughly mixed at the nozzle, building itself into a dense, protective coating of substantial thickness.

Dens-tect may be specified with complete assurance as a wall treatment and plaster base for the interior of exterior walls, and for light waterproofing in exterior applications below the grade line.

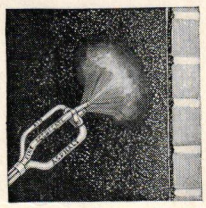
For complete information and quotation, get in touch with the nearest Par-Lock Applier—assuring expert, interested and responsible application of



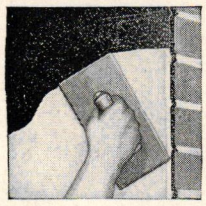
MASONRY WALL



ASPHALT PRIMER



BUILT-UP COAT



PROTECTED PLASTER

Dens-tect

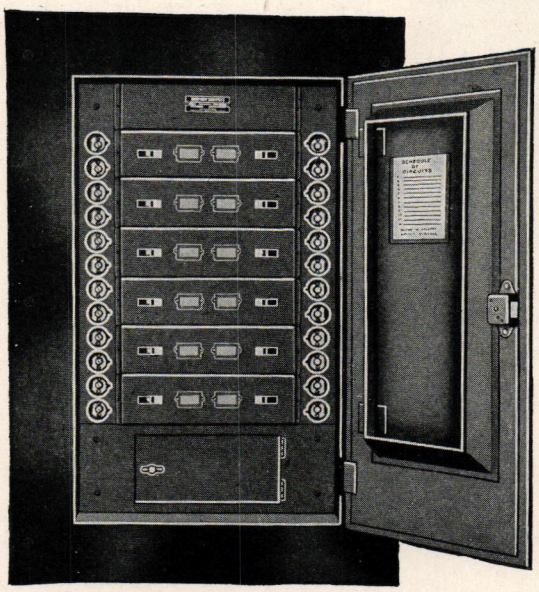
TRADE-MARK

Protects Plaster

THE VORTEX MANUFACTURING CO. · *1975 W. 77th St., Cleveland*

BENJAMIN-STARRETT

Heavy Duty
Lighting Panelboards and Steel Cabinets



Safety Front Type Heavy Duty Benjamin-Starrett Panelboard

The wide variety of circuit arrangements makes it easy to select just the right panel to meet any residence, commercial, institutional or industrial wiring requirement.

Many exclusive Benjamin-Starrett features cut installation time to the minimum.

The unit sectional construction and individualizing of parts provide the greatest accessibility and flexibility, assuring the highest type of continuous service at a minimum of maintenance expense.

Special Features

Easy to Install

4-inch wiring space on all four sides; adjustable trim clamps; extra large panel mounting holes; slip-off barrier easily removed; one-piece panel back.

Quick Delivery

Boxes carried in stock at local distributors and district warehouses. Unit section construction insures quick assembly of panelboard.

All Parts Removable from Front

Should replacement of parts ever become necessary, the switches and fuse receptacles are individual units which may be removed without disturbing the trim. Replacements or changes in branch circuits made without removing panel from box.

Heavy Duty Switches

Branch Circuit tumbler switches on both two-fuse and one-fuse panels are heavy duty type—30 ampere, 250 volts.

Three Styles of Cabinets

Safety Front, Protective Front and Open Front to suit any specific requirement.

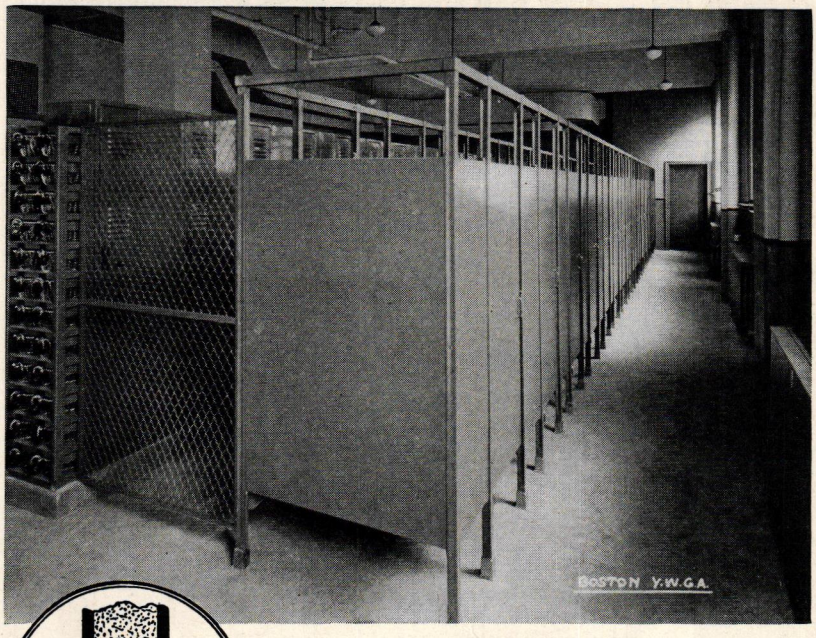


FREE! This 80-Page Catalog The complete listings with their practical arrangement and the clear and detailed illustrations make it easy to select the right panelboard for any job in any type of building. Send for it today.

Benjamin Electric Mfg. Co.

General Offices and Factory
DES PLAINES, ILL. (Chicago Suburb)
New York Chicago San Francisco

VENEER-STEEL PARTITIONS



Boston Y. W. C. A.
Shepard and Stearns—Architects
W. A. and H. A. Root, Inc.—Builders

Proved Dependability!

IN ALL sections of the country—under all conditions of service—Veneer-Steel partitions have proved their dependability. Time, hard use, hot and cold water, rapid temperature changes—these and other enemies of long wear have been encountered and defeated. Veneer-Steel is the original flush-type, sound-deadening, galvanized partition.

1st—Rustproofed—completely, inside and out.

2nd—Flush Type—perfectly smooth.

3rd—Sound-Deadened—doors and all.

4th—Ball Bearing Gravity Hinge—Lasts a Lifetime.

Veneer-Steel TRADE MARK REG.

Complete details found in Sweet's or send for bulletins

THE HART & HUTCHINSON COMPANY
New Britain, Conn. Agents in principal cities

To Architects:

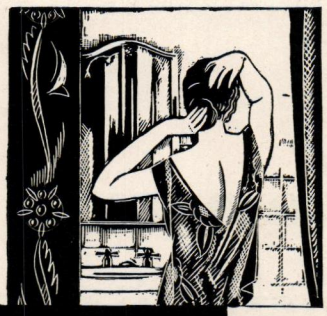
Inquiries are requested relative to the ventilation of new and existing buildings, or the correction of heated air systems. Estimates of cost are submitted without obligation. Installations made anywhere. Atmospheric results are guaranteed. References and booklet on request.

At West Haven, Ct., are three schools, ventilated by the Gerdes Method with vital, *unheated,* fresh air; one, a high school having an auditorium. All were designed by R. W. Foote, Architect, New Haven, Ct.

Wherever, as in schools, it is desired to stimulate mental activity, promote comfort and health, and lessen absenteeism, it is essential to use the Gerdes Method.

NOTE: *If the* 1,800 *cubic feet standard is imposed the Gerdes Method is not practical unless the usual amount of direct heating is increased.*

THEODORE R. N. GERDES, M. E.
Registered Professional Engineer
Manufacturer and Contractor
105-107 Bank Street - - - - New York, N. Y.





BATHROOMS SELL HOMES—Hess Mirrored Cabinets sell bathrooms—in your new construction—in remodeling—a Hess Steel Mirrored Cabinet in the bathroom, concealed behind a large mirror of fine beveled plate glass, will give that feeling of comfort and luxury that far offsets the price. A wide variety of styles and sizes to meet any service. Mail the coupon below for catalog and prices on Hess Mirrored Cabinets.

HESS WARMING & VENTILATING COMPANY
1223 South Western Ave., Chicago

HESS MIRRORED CABINETS

HESS WARMING & VENTILATING CO.
1223 S. Western Ave., Chicago, Ill.
I am interested in Hess Mirrored Cabinets. Send me your complete catalog.

Name.....

Address.....



FOR THE Bank Cafeteria
—*The Energy Electric*

A LARGE banking institution planned to install a cafeteria on its fourth floor for the benefit of its personnel.

The food was to be brought in at lunch time already cooked in large pans and pails, and taken directly to the hot tables where it would be served.

Having no service elevators, the bank faced the problem of moving up the cooked food and disposing of the waste without coming into contact with the public portions of the building.

Absolute reliability of service was desired, and capacity for a heavy load essential . . . an Energy Electric Dumbwaiter with a capacity of 200 lbs. filled the need at a fraction of the installation cost of other suggested methods, and the enclosed shaft was finished in keeping with the interior of their modern building.

SEE OUR Catalogue in SWEETS

Bulletin 103, describing the Energy Electric, will be gladly sent at your request to Energy Elevator Company, 211 New Street, Philadelphia, Pa.

ENERGY ELEVATORS & DUMB WAITERS
WHEREVER A LIFT IS NEEDED
Established 1887

— –JUST PIN THIS COUPON TO YOUR LETTERHEAD– —

ENERGY ELEVATOR COMPANY, 211 New Street, Philadelphia, Pa.

Please send me the Bulletins I have checked below:

☐ No. 103 Electric Dumbwaiters
☐ No. 101 Electric Sidewalk Elevators
☐ No. 104 Hand-Operated Dumbwaiters
☐ No. 102 Hand-Power Sidewalk Elevators

Signed.....

Address.....

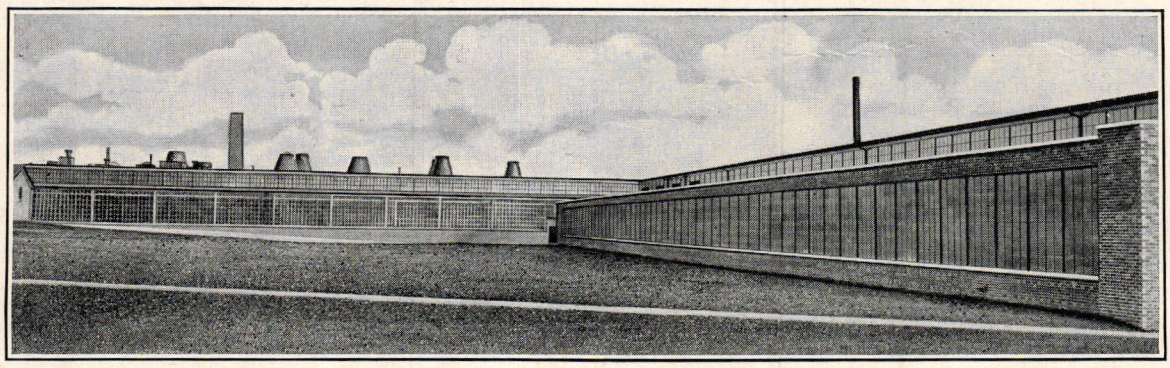
Olean Tile Company accepts responsibility of increased public favor

Extensive additions to the plant of the Olean Tile Company, one of which is pictured on this page, were planned and built for better fulfillment of certain definite obligations.

To the management of the Olean Tile Company, Quality and Service represent far more than mere statements of good intentions. They are just as much a part of the finished Olean product as the clays that go into the tile.

These new specialized units assure adequate facilities to further Olean's ideals of quality and service. They mean that the architects who, in increasing numbers, are ordering "Olean Tile" will get a quality product, and that the tile contractors who order "Olean" will get deliveries when and as they want them . . . Olean Tile Company, Olean, New York . . . Member Associated Tile Manufacturers.

Olean Tile



Section of new Tunnel-Kiln Building in Background with Main Assembly and Shipping Unit in Foreground

A NEW and SIMPLE WAY to make sure of LUMBER QUALITY



This sign of CONFIDENCE identifies the 4-SQUARE DEALER

SUBSTITUTION of lumber of cheaper species and lower grades than called for in the Architect's specifications has always been difficult to detect and prevent.

Now the architect can make substitution impossible.

You need simply specify 4-Square Lumber of the species and grade you desire. 4-Square Lumber is packaged for *identification* and *protection*. The *species* and *grade* are marked on the label and *guaranteed* by Weyerhaeuser.

It comes to the job in the *original* packages under the *original* label—for you to see and check. There can be no "mistake."

4-Square Lumber, grade for grade, is the finest lumber you have ever seen. It is properly seasoned—and milled to precise standards of size and finish.

Furthermore, 4-Square Lumber is cut to exact lengths and *trimmed square at both ends*—eliminating needless hand trimming at the job.

Reliable lumber dealers are now prepared to supply—and reliable contractors are using—4-Square Lumber in the items of finishing lumber now manufactured under the 4-Square brand.

WEYERHAEUSER FOREST PRODUCTS
ST. PAUL, MINNESOTA

Weyerhaeuser Sales Co., *Distributors*, Spokane, Washington
District Offices: Minneapolis, Kansas City, Chicago, Toledo, Pittsburgh, Philadelphia, New York

4 SQUARE LUMBER

Species and Grade are Marked and Guaranteed

TRIMMED SQUARE .. PACKAGED .. READY TO USE .. GUARANTEED



An aquatint study of Devonshire House, London, England ⌒ Professor O'Reilly, Architect ⌒ Messrs. Richard Crittall and Co., Ltd., London, Engineer . . . . . Jenkins Valves are used in steam and water service in the boiler house and in other parts of this important building . . . . . Jenkins Bros. ⌒ New York ⌒ Boston ⌒ Philadelphia ⌒ Chicago . . . Jenkins Bros. Ltd. ⌒ Montreal ⌒ London.

Always marked with the "Diamond
Jenkins Valves
SINCE 1864

"The finest possible development of the nation's capital should have the support of all Americans".— Horace W. Peaslee

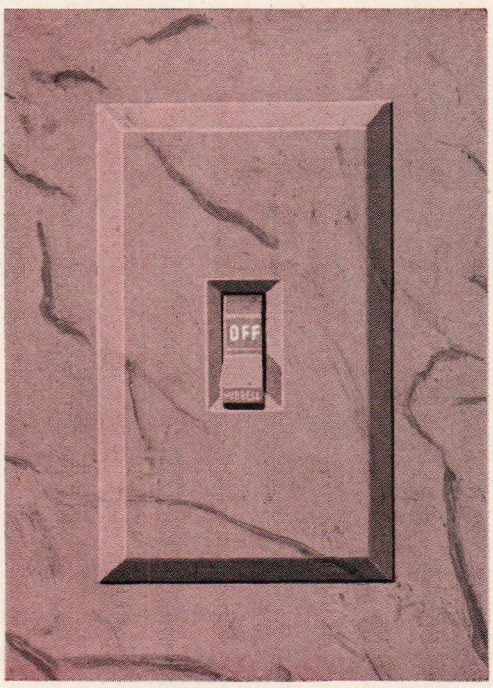
Be CERTAIN of perfectly aligned plates..

On uneven walls Screwless Plates align automatically

PERFECT alignment of Screwless Plates does not depend upon even walls or careful building-up. By specifying Hubbell Screwless Plates of Bakelite the architect can be certain that the appearance of a house or building will not be marred by plates which project awkwardly from the walls.

Screwless Plates must hug the walls closely. Perfect alignment on uneven walls is automatic... building-up unnecessary.

An exclusive feature, the Hubbell Metal Under-plate which is screwed to the switch or outlet, automatically brings the device flush with an uneven wall as it is fastened to the outlet box. Then the "dead-front" Screwless Plate of Bakelite is simply snapped fast to the Under-plate.

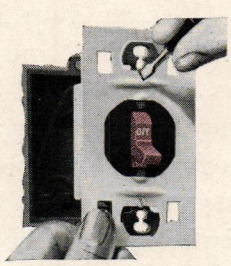


Through the development of a special plate finishing process, Hubbell can provide the architect with Screwless Plates which duplicate the color and material of the background to which they are affixed. Any wood, marble, textured plaster, or color tone can be faithfully reproduced. The architect need only supply specifications or sample of the material to be simulated.

Mail the coupon below to our nearest office for detailed information about Hubbell Screwless Plates.

HARVEY HUBBELL, INC.
BRIDGEPORT, CONN.

Boston, Mass., 176 Federal St., Atlanta, Georgia, H. C. Biglin, 138 Marietta St; New York, N. Y., 122 East 42nd St.; Chicago, Illinois, 818 W Washington St.; Denver, Colo., The Sales Service Co., 1109 Broadway; Philadelphia, Pa., Fifth St., Philadelphia Bourse, (Exhibition Dept.); San Francisco, Cal., Garnett Young & Co. 390 Fourth St.



1 Screw Metal Under-plate to switch — when wiring is done

HUBBELL *Screwless Plates*

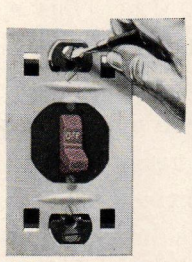
Please send Hubbell Screwless Plate Bulletin

Name_____

Address_____

City and State_____

P.P.-6-29



2 Fasten switch to outlet box— no "building-up" necessary

LUPTON STEEL WINDOWS . . . A MEDIUM AS FLEXIBLE AS A PRELIMINARY SKETCH



Lounge of the new Y. W. C. A. building at Cincinnati. Light, airy, cheerful. Rendigs, Panzer & Martin, Architects. F. B. & A. Ware, Associate Architects.

For relieving masses of masonry with interesting window-treatments, architects find Lupton Steel Windows almost as plastic as sculptor's clay. They have many distinct types of windows to work with. Each has a definite use in hotels, apartments, hospitals, fine office buildings, distinctive shops and stores.

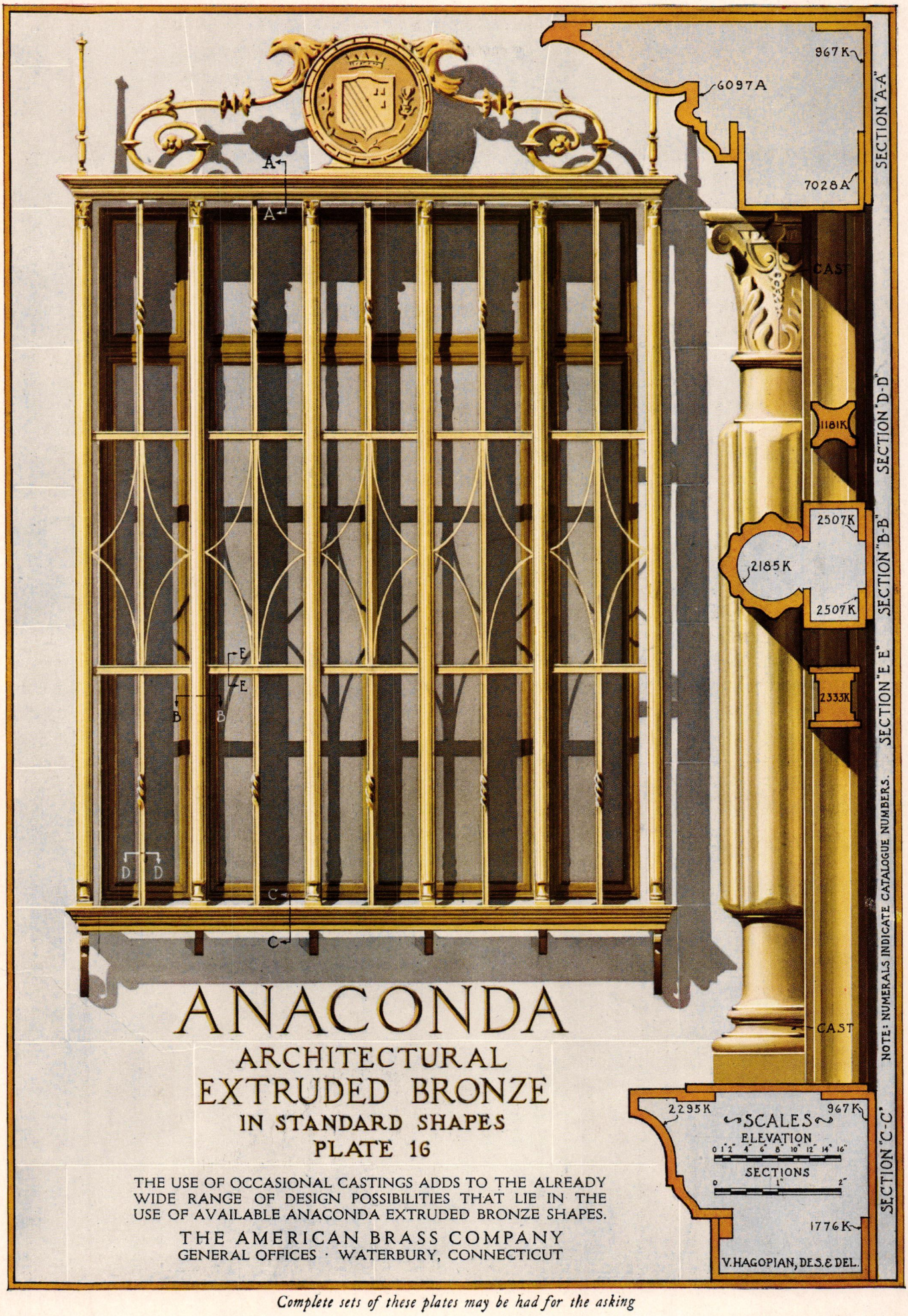
Each of these types of Lupton window is made in a variety of *standard* sizes—with corresponding price-economies. The architect can individualize his window-plans and still keep costs in line with a moderate building-budget.

As the architect can specify these standardized windows months ahead of the building, shades, screens, and awnings can be ordered in quantity lots, and a material saving can be effected.

The complete story of Lupton Steel Windows is right on your desk now. Pick up your 1929 edition of *Sweet's*. Turn to page A1192 and leaf over the Lupton presentation . . . 63 pages of facts that will help you save money on your jobs, and give you a flexible medium for building beauty into every one of them. When you use Lupton Steel Windows, you offer your clients a quality product which is nationally known. David Lupton's Sons Co., 2229 East Allegheny Avenue, Philadelphia, Pa.

LUPTON

WHERE STEEL IS FUSED WITH SINCERITY



ANACONDA

ARCHITECTURAL EXTRUDED BRONZE

IN STANDARD SHAPES

PLATE 16

THE USE OF OCCASIONAL CASTINGS ADDS TO THE ALREADY WIDE RANGE OF DESIGN POSSIBILITIES THAT LIE IN THE USE OF AVAILABLE ANACONDA EXTRUDED BRONZE SHAPES.

THE AMERICAN BRASS COMPANY
GENERAL OFFICES · WATERBURY, CONNECTICUT

Complete sets of these plates may be had for the asking



Specify LEAD

for paint satisfaction



When lead paint goes on a wall, it goes on to stay, to give lasting satisfaction.

For exterior use, lead paint stands all kinds of wear and weather. It is tough and elastic. For interior use it produces beautiful, lasting finishes, either plain or modern plastic treatment.
Specify Eagle Pure White Lead.

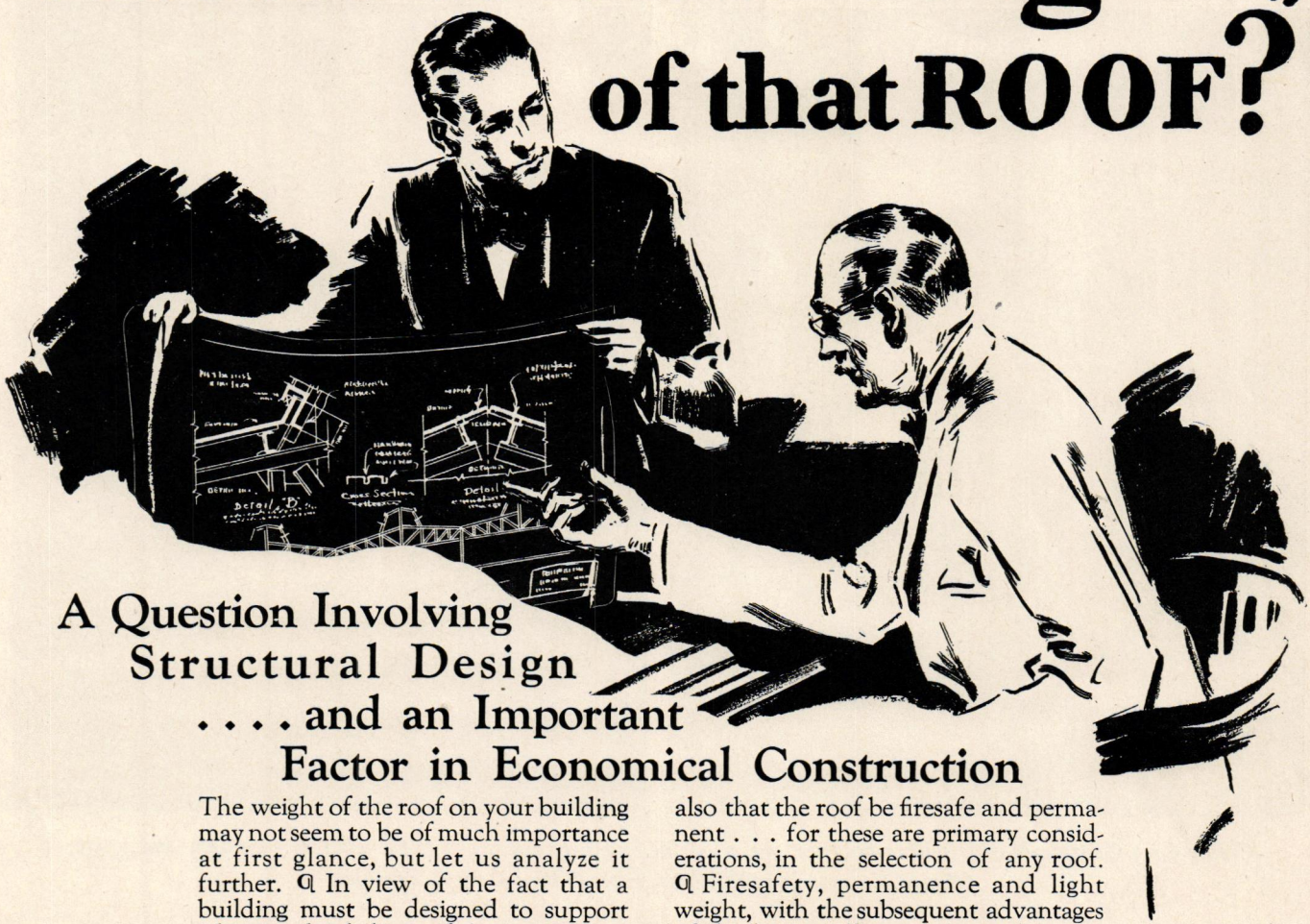


Reg. U. S. Pat. Off.

EAGLE White Lead

made by The Eagle-Picher Lead Company, 134 North La Salle Street, Chicago. Producers of lead, zinc and allied products

"What is the Weight" of that ROOF?



A Question Involving Structural Design .... and an Important Factor in Economical Construction

The weight of the roof on your building may not seem to be of much importance at first glance, but let us analyze it further. ¶ In view of the fact that a building must be designed to support whatever load the roof represents, it is obvious, especially in most industrial buildings, that the *weight* of the roof *is* an important factor . . . and, that through the use of light weight roof construction, appreciable economies may be effected throughout the entire supporting structure. It is important also that the roof be firesafe and permanent . . . for these are primary considerations, in the selection of any roof. ¶ Firesafety, permanence and light weight, with the subsequent advantages of the latter, all incorporated in the Mahon Steel Roof Deck, can be obtained in no other type of roof construction. ¶ Let us show you comparative figures on the economy of Mahon Steel Roof Deck . . . write today for complete catalog and our folder "Facts and Figures."

THE R. C. MAHON COMPANY
DETROIT, MICHIGAN
Branch offices in New York, Chicago and Pittsburgh—Representatives in all principal cities

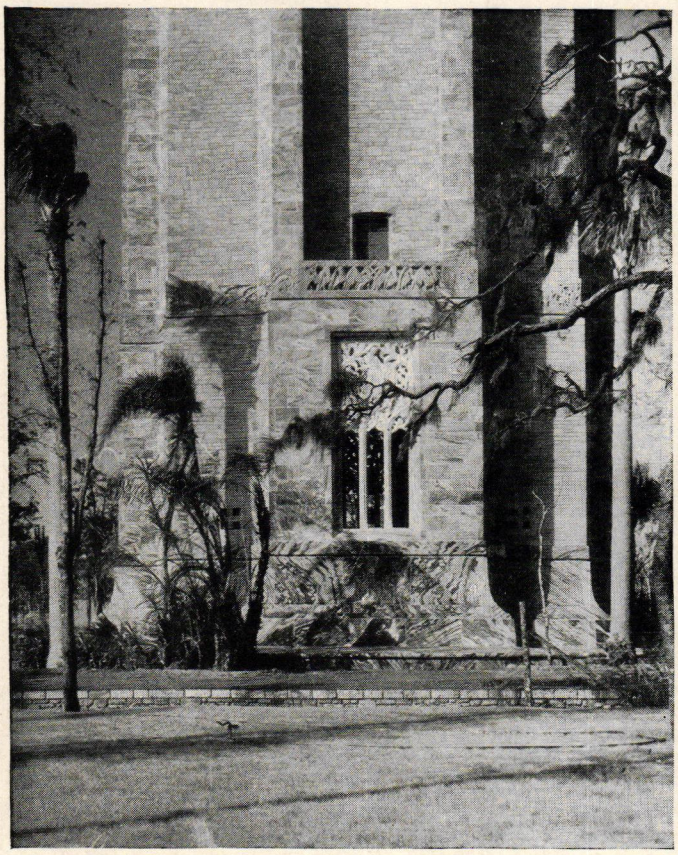
MAHON
STEEL ROOF DECK

Manufactured in Galvanized Steel in either 18 or 20 Gauge



Mahon Steel Roof Deck, manufactured from special, tight coated galvanized steel, weighs only five pounds per square foot—including insulation and roofing material.

GEORGIA MARBLE *for the*





Creole Grey Georgia Marble with a bold pattern, used for base between sill of triple window (see left) and grade. All marble used above this base, Etowah Pink Georgia Marble.

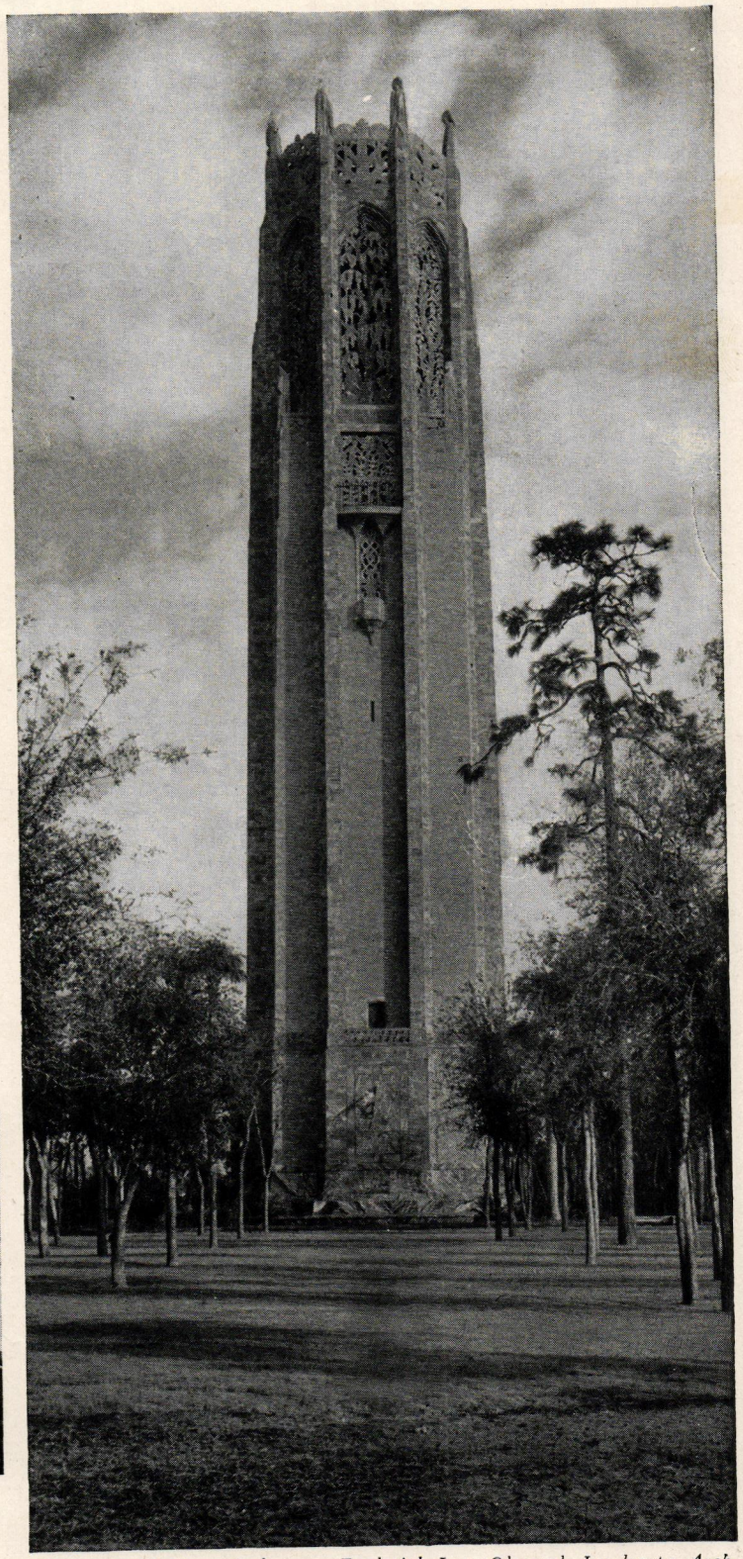
The Outstanding Architectural Achievement of the Year

The Bok Singing Tower, from the standpoint of design, construction, materials used, and the purpose back of its erection, is unique, and stands as the signal architectural achievement of the year . . . The striking beauty of this tower is ascribed in no small measure to the pink Georgia Marble which was used extensively for the exterior and interior . . . Georgia Marble is procurable in any desired quantities in *white* as pure as the marble used in the statue of Lincoln, Lincoln Memorial, Washington,

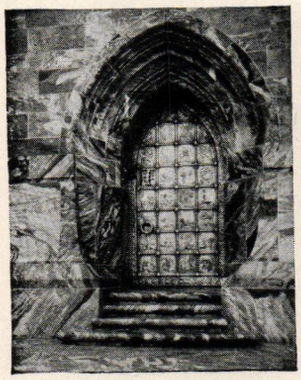
BOK SINGING TOWER

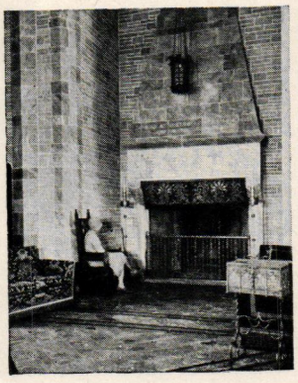
(*Continued from preceding page*)

D. C.; a variety of *pinks* from a light shell pink to a darker color with bold markings; *greys* from our light Cherokee to our darker and heavily patterned Creole; and *special* colors . . . A range of blocks containing bold markings was chosen as the most desirable for this particular piece of work . . . Georgia Marble is strong, durable, and practically impervious to moisture. It is a wise choice for beautiful buildings that are built to stand for a long time.



Milton B. Medary, Arch. *Frederick Law Olmsted, Landscape Arch.*





Left—The Marble around the main entrance is Creole Grey Georgia Marble. Right—All of the interior including the large mantel is Georgia Marble.

THE GEORGIA MARBLE COMPANY · TATE · GEORGIA

1328 *Broadway* NEW YORK
814 *Bona Allen Bldg.* ATLANTA
648 *Builders Bldg.* CHICAGO
622 *Construction Industries Bldg.* DALLAS
1200 *Keith Bldg.* CLEVELAND

Insured Forever
against
Cracks, Breaks or Spalls



The Foreman Bank, *Chicago* — The Koppers Building, *Pittsburgh*
Graham, Anderson, Probst and White, *Architects*

The beautiful facades of these buildings, like those of many other famous buildings using the Cowing Joint, are safeguarded against cracks, spalls and breaks.

COWING
Pressure Relieving
JOINT
Patented September 1, 1925

Cracks, breaks and spalls which despoil beautiful buildings, vex the owner and worry the architect, are definitely conquered by the Cowing Pressure Relieving Joint.

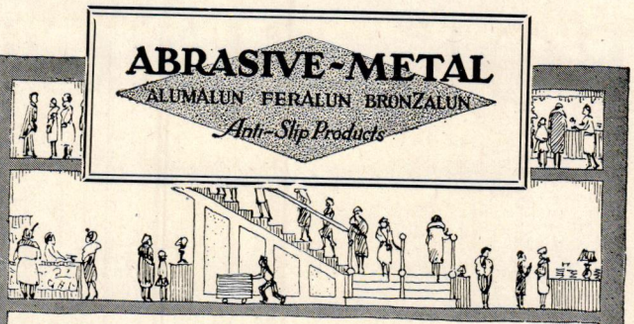
The Cowing Joint zones a building into story heights—it compresses and compensates for any destructive stresses thrown on the facing material by compression of steel, temperature changes or imposed loads. It saves mortar joints and eliminates frequent tuck-pointing.

The Cowing Joint is neat—it will not squeeze out—it lasts as long as the building.

Write for our Illustrated Booklet

Cowing Pressure Relieving Joint Co.
160 N. Wells St. - Chicago, Ill.

ABRASIVE-METAL
ALUMALUN FERALUN BRONZALUN
Anti-Slip Products



Meet Safe Walkway Demands

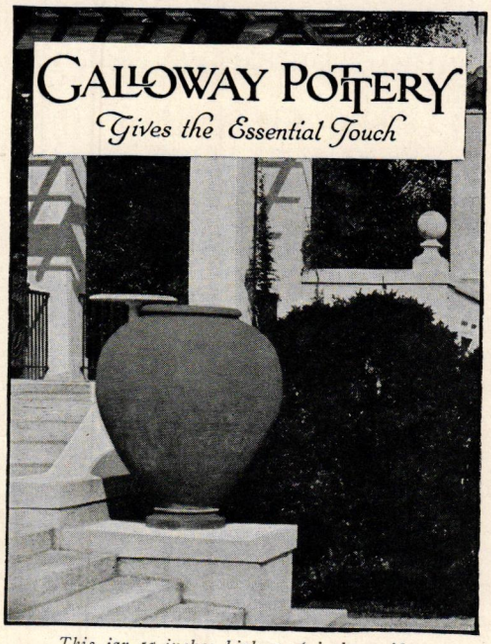
ANTI-SLIP surfaces on all walkways in department stores are insisted upon by retail merchants to protect their customers from accident hazards. This protection is an important factor in lowering their accident insurance premiums. Slippery or worn stair-treads and elevator floor landings cause a large proportion of accidents in stores.

Specify Abrasive-Metal products and reduce these slipping and tripping hazards to a minimum.

Let us send you Rep. 345 with details

AMERICAN ABRASIVE METALS COMPANY
50 Church Street · · · New York

GALLOWAY POTTERY
Gives the Essential Touch



This jar 53 inches high x 46 inches wide was made for Benj. W. Morris, Architect

We will be pleased to quote on special work, or upon request will send you catalogue of high-fired
Terra Cotta Jars, Flower Pots, Vases, Bird Baths, Sun Dials, Benches, Etc.
Established 1810

GALLOWAY TERRA COTTA CO.
3226 WALNUT ST. PHILADELPHIA



FAIENCE MMC

Faience Wall Fountain

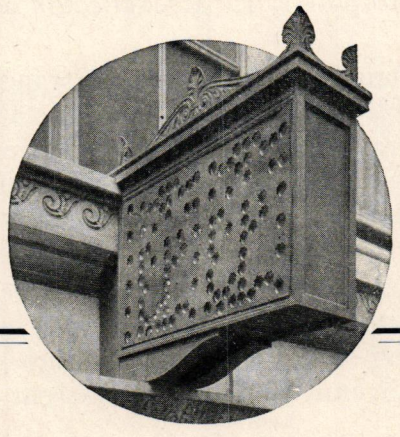
No. 7. Scale 2″=1′-0″

MUELLER MOSAIC CO.

FACTORY: TRENTON, N. J.

New York Show Room: 103 Park Ave.

SEND FOR BOOKLET



Automobile and Carriage Calls

QUIET and effective means of calling vehicles to doorways of theatres, hotels, department stores, and other public buildings. They obviate confusion and shouting; require no perforated key-cards or other contrivances; and are visible day or night.

OTHER KLIEGL LIGHTING SPECIALTIES

Footlights	Exit Signs	Floor Pockets	Floodlights
Borderlights	Aisle Lights	Wall Pockets	Spotlights
Cove Lights	Step Lights	Panel Boards	Music Stands
Color Lighting	Auto-Calls	Dimmers	Scenic Effects

for Descriptive Literature write

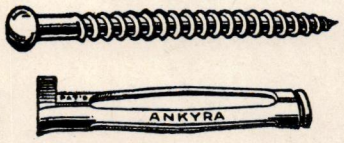
KLIEGL BROS

UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC.

321 WEST 50th STREET

NEW YORK, N.Y.

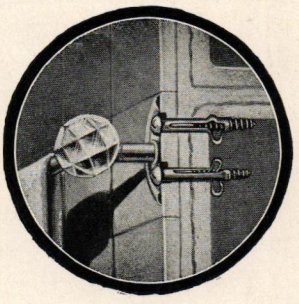
Here's All You Need

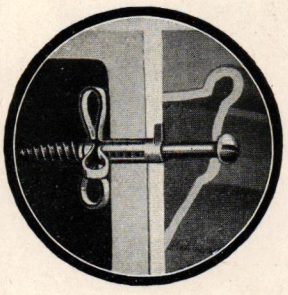


to hold any fixture to any wall

An ordinary wood screw plus the Ankyra Expanding Sleeve provides a permanent anchor bolt that holds even the heaviest fixtures to any wall — from concrete to wall-board.

Ankyra is a combination anchor and toggle bolt with the added advantage of a self-contained nut which allows repeated insertion and withdrawal of the screw, without damage to wall or fixture.





Cheap, Quick and Permanent

Ankyras are the most economical and efficient anchor bolts made, in that they provide a quick and sure hold for any fixture to any wall without the usual and costly practice of planning exact locations in advance.

ANKYRA MFG. CO.

149 Berkley Street Philadelphia, Pa.

Ankyra Ankor Bolts

Ankyra

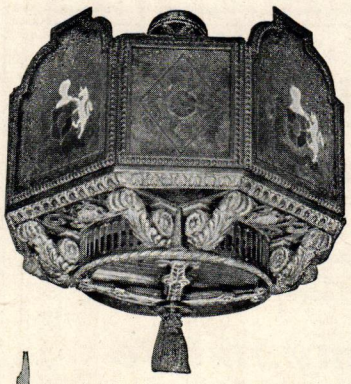
ANKYRA MFG. COMPANY

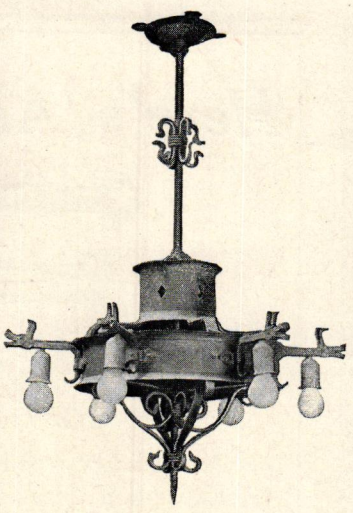
149 Berkley St., Philadelphia, Pa.

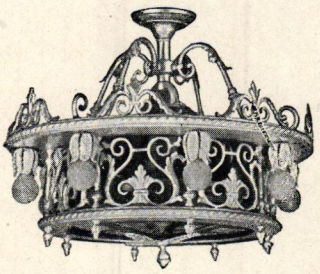
Send me specification forms and samples of Ankyra.

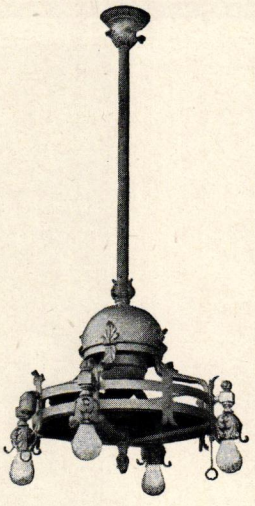
NAME.....

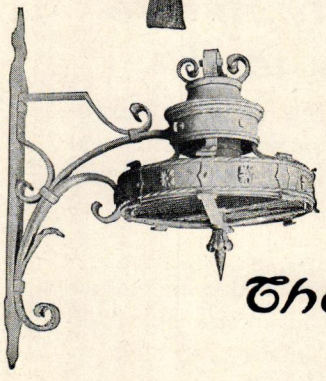
ADDRESS.....







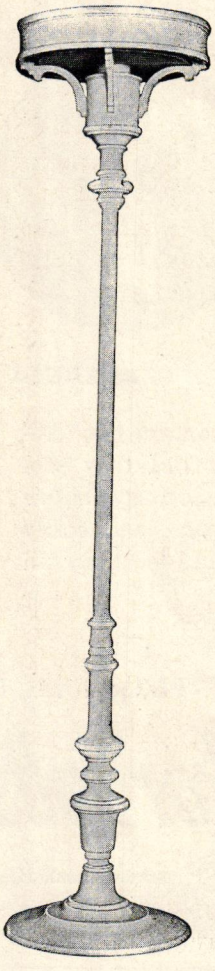




The Fandolier

is a fan in unison with the ideals of architects and contractors.

Architects can now specify fans with utility value and to harmonize in design, texture and location with their other ideas of decoration. Lighting fixture manufacturers can now satisfy the architects' ideas.



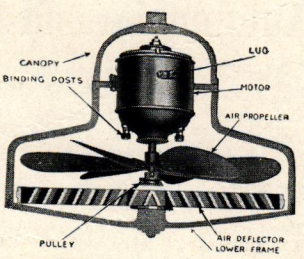
The FANDOLIER is unique in comfort producing equipment—moving air at proper velocity and distributing it at such intervals as to give the soothing effect of a palm leaf fan.

It consists of a motor, an air propeller, an air deflector or distributor and a supporting frame.

The air deflector, made up of small parallel planes arranged in two groups within a containing ring, rotates on ball bearings at relatively slow speed. The planes are placed at such an angle with relation to the propeller that the complete cycle of air movement is directed in the form of a cone with the axis in line with the motor shaft.

The breeze from the FANDOLIER is not steady, but intermittent—the arrangement of the deflector blades in two groups and the rotating speed of the deflector being such that a given point within the conical range receives an air movement about twenty-eight times per minute.

The FANDOLIER is furnished in stock models with or without lighting fixtures and in stripped units which manufacturers may incorporate in fixtures of their own designing or in accordance with architects' and decorators' designs, to meet any special scheme of decoration.



THE SAFETY CAR HEATING & LIGHTING COMPANY

NEW YORK
75 West Street

PHILADELPHIA
16 South Broad Street

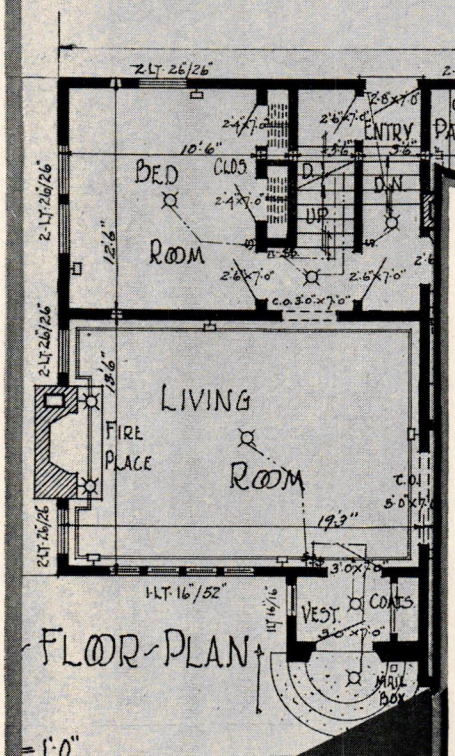
CHICAGO
310 South Michigan Avenue

BOSTON

ST. LOUIS

SAN FRANCISCO

Easier to Read—



Ozalid

REGISTERED

The
DIRECT POSITIVE PRINT

DARK contrasting lines against a clear white background are much easier to read than the blurred white, uncertain lines on a negative print of any kind.

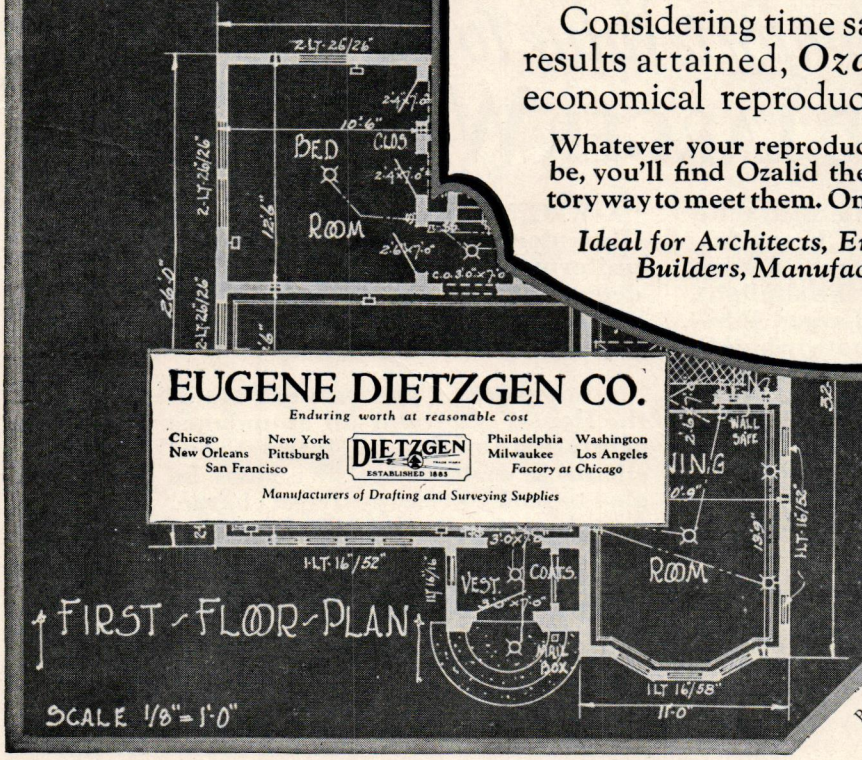
Ozalid is printed just like a blue print—but requires no washing—developed dry, it does not shrink or wrinkle. It is true to scale of original.

Ozalid can be written on, altered, shaded or colored with pencil, brush or pen and ink. It is non-fading and neither lime or cement spots affect it.

Considering time saved and the superior results attained, ***Ozalid*** offers the most economical reproduction method.

Whatever your reproduction requirements may be, you'll find Ozalid the most modern satisfactory way to meet them. One trial will convince you.

Ideal for Architects, Engineers, Contractors, Builders, Manufacturers and Others



EUGENE DIETZGEN CO.

Enduring worth at reasonable cost

Chicago · New York · New Orleans · Pittsburgh · San Francisco · Philadelphia · Washington · Milwaukee · Los Angeles · *Factory at Chicago*

DIETZGEN ESTABLISHED 1885

Manufacturers of Drafting and Surveying Supplies

EUGENE DIETZGEN CO.
(Address Branch Nearest You)

Gentlemen: I'd like a copy of your new OZALID book, also sample prints on OZALID Papers and Cloth together with net prices.

P. P. 629

Name _____
Business _____
Firm _____
Address _____
City _____ State _____

Send Coupon NOW

YES, IT LOOKS O. K..... BUT

How much does it cost to operate?



AND our answer is, don't take our word for it. Let us see what unbiased engineers have to say on this point.

26 Cans raised and lowered for ONE CENT

Engineers of the Sprague Electric Works conducted a series of comprehensive tests to determine current consumption of G&G Electric Ash Removal Equipment operating under varying conditions. At the Mergenthaler Linotype Co., Brooklyn, N. Y., a Model D, similar to illustration, handled 78 tons of ashes in one k.w.h. with current costing 3 cents.

15½ Tons Ashes moved in ONE k.w.h.

At a New York Telephone Co. building (one of 168 Bell Telephone buildings) where a Model E (no overhead crane) Hoist was tested, 85 round trips were made for one cent current cost. Another test (at a Public School) showed 33 cans handled for one cent. Still another test (at a Telephone Building) showed 15½ tons of ashes handled in one k.w.h. In every case, distance of lift and rate per k.w.h. must be considered.

Complete Test Data available

This test data is in our files. We shall be glad to furnish complete figures on request.

Merited Popularity

It is performance like this that has led to the outstanding popularity of G&G Electric Ash Removal Equipment in all types of buildings where a volume of ashes must be removed.

1780 Schools use G&G equipment
581 Bank Buildings
551 Office Buildings
Churches, Hospitals, Theatres, etc.

You will find the services of our Engineering Department of considerable value in determining how various ash removal problems shall be met and in determining which Hoist and what equipment best suits the specific condition—so that the completed installation may give the building owner the utmost satisfaction throughout the years.

23rd Arch't. Ed. pp. C3729-37

SEE OUR Catalogue in SWEETS

14th Engr. Ed. pp. 1144-45

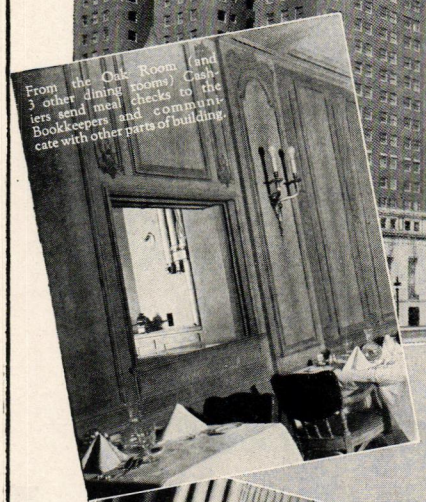
GILLIS & GEOGHEGAN

63 Years of Service

548 West Broadway, New York, N. Y.

PNEUMATIC TUBES





In the World's Greatest Hotel

THE STEVENS

CHICAGO, ILLINOIS

HOLABIRD & ROCHE, Architects

WALTER BIRD, Chief Engineer

ERNEST J. STEVENS, President and Gen'l Mgr.

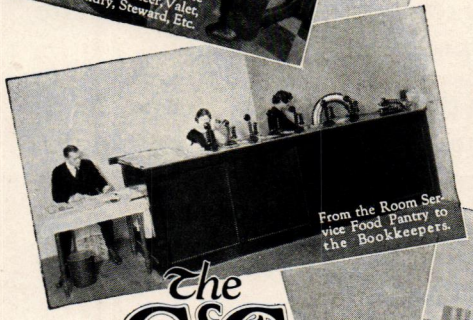
TO RENDER quiet, unobtrusive and always pleasing service to its thousands of daily guests is a task in The Stevens Hotel that demands the most modern equipment to support the large staff of employees. In the prompt execution of routine and special service the G&G Atlas Pneumatic Dispatch System plays an important role.

Guests are registering and checking out in a continual procession. Meals are served and charged. Telephone calls, valet service and laundry charges must be transferred to guest accounts immediately. Hotel executives, department chiefs and floor clerks must be linked together for the exchange of written messages, orders and other forms.



Banks, hotels, hospitals, newspapers, libraries, mail-order houses, retailers, wholesalers, factories and large offices of all kinds use G&G Atlas Pneumatic Dispatch Tubes for speedily distributing mail, telegrams, inter-office papers and light-weight articles among scattered departments. "Mechanical Messengers are faster and more dependable than human messengers."

Catalog in Sweet's Arch't. Cat., 23rd Ed. pp. C3740-41
Catalog in Specification Data, 1929 Ed. pp. 228-229

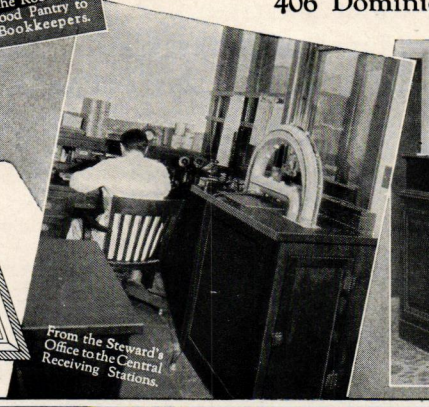


G&G ATLAS SYSTEMS, Inc.

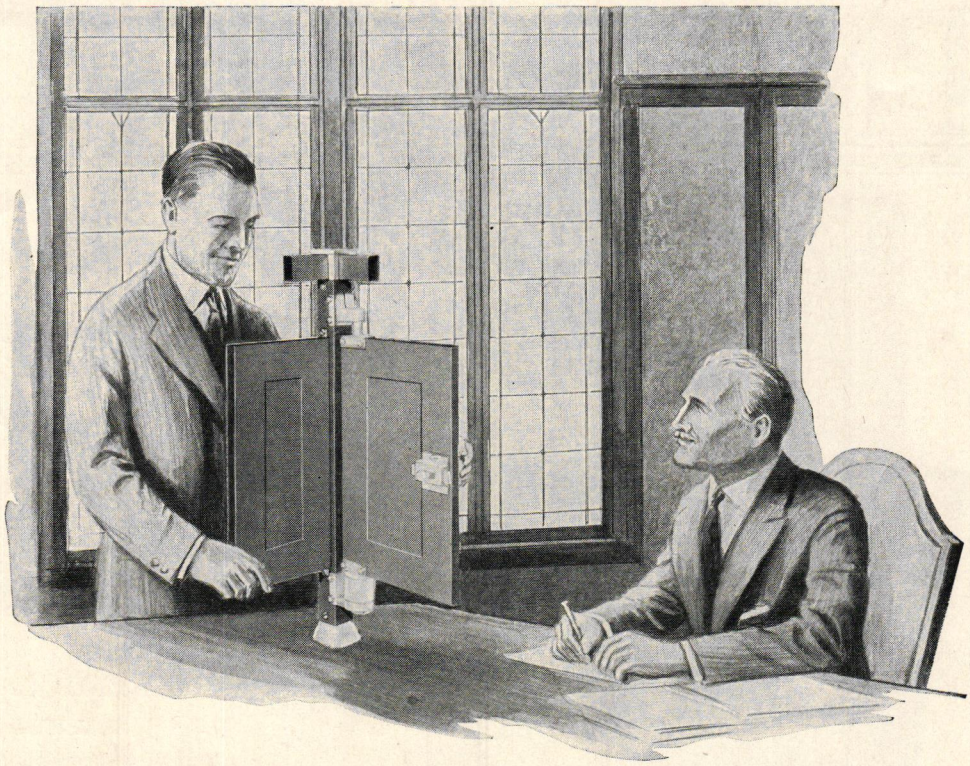
(Under Gillis & Geoghegan Management)

548 West Broadway New York
406 Dominion Bank Bldg., Toronto

The G&G ATLAS PNEUMATIC TUBE SYSTEM
REG. U.S. PAT. OFF.





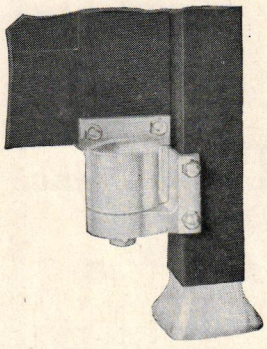


To the Architect Who Has Not Seen Marblmetal

A NUMBER of samples of the wonderful new Marblmetal toilet partitions have been made and shown to a great number of architects and builders. If you have not yet seen Marblmetal one of these samples is now available.

Marblmetal is the first outstanding toilet partition development since metal was first introduced. It combines all the fine advantages of both marble and metal with every possible refinement.

Panels and doors ¾" thick. Easy to keep clean. Thru bolted, chromium plated, gravity hardware. Will not absorb odors. Here is without question a toilet partition in a class by itself. Ask to see a Marblmetal sample. Our nearest representative will be glad to show you.

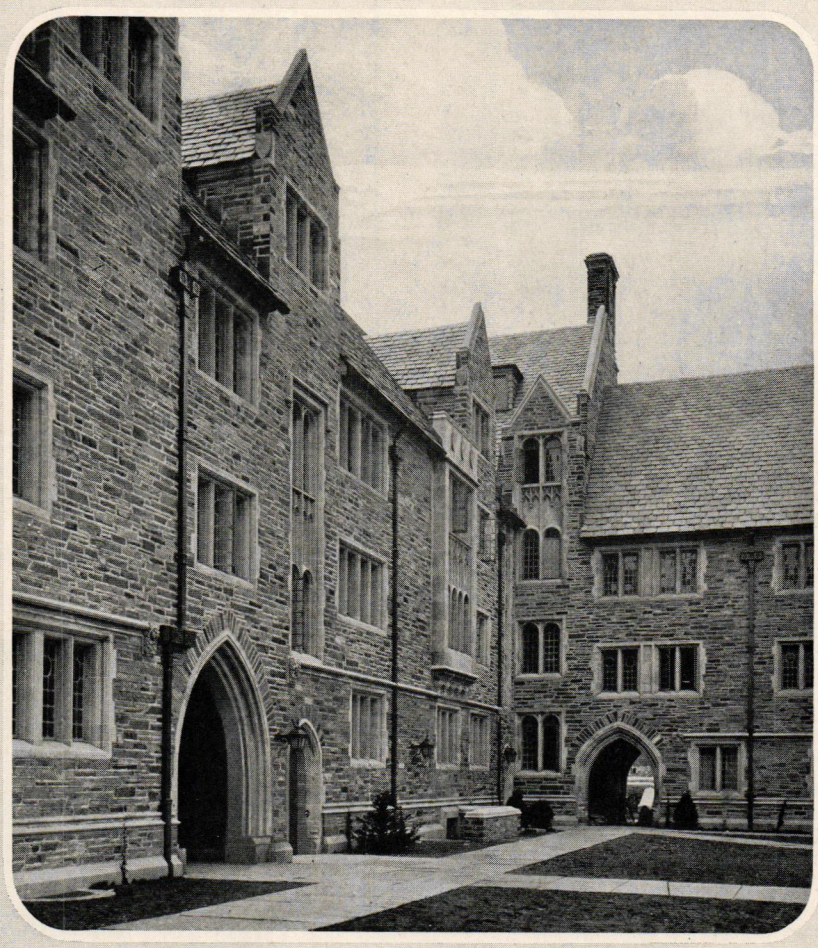


Marblmetal hardware is unquestionably the finest hardware ever put on a toilet partition and is chromium plated. Note internal shoe—an exclusive Mills feature.

THE MILLS COMPANY
A Mills Metal Partition for Every Purpose
904 Wayside Road ... Cleveland, Ohio
REPRESENTATIVES IN ALL PRINCIPAL CITIES

MARBLMETAL

INTERNATIONAL CASEMENTS



Pyne Hall
Princeton University

Day & Klauder
Architects

INTERNATIONAL Metal Casements with leaded glass are an effective detail in a number of the dormitories erected on the Princeton Campus during the past decade. They are particularly harmonious to the style of architecture adopted for the University's program of new building.

Also Manufacturers of International Austral Windows

INTERNATIONAL CASEMENT Co INC

JAMESTOWN, NEW YORK

AGENTS IN PRINCIPAL CITIES

IN CANADA: ARCHITECTURAL BRONZE & IRON WORKS, TORONTO, ONT.



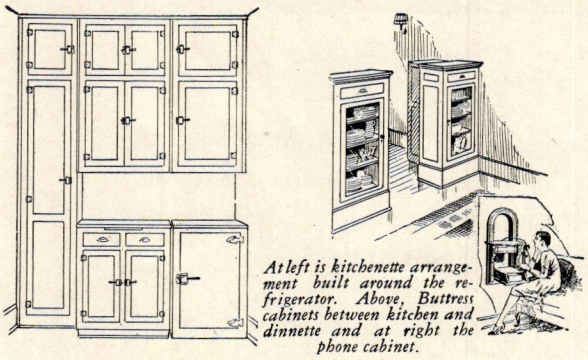
Premier Products Furnished by St. Louis Woodwork Company

Another Premier Installation

in St. Louis, Missouri

THE Marmaduke Apartments offer an added attraction to tenants because of Premier Conveniences. The 124 apartments in this new building have the Premier installations illustrated below.

Premier sectional kitchen cabinets can be assembled in hundreds of different arrangements. All Premier products (in various sizes) are just as easy to install in old homes or apartments as in new ones. They are sold only by dealers and distributed by jobbers in more than 100 principal cities.



At left is kitchenette arrangement built around the refrigerator. Above, Buttress cabinets between kitchen and dinnette and at right the phone cabinet.

PREMIER *Standardized* WOODWORK

1912 Mills Street + + El Paso, Texas

Please send illustrated booklet of Premier Built-Ins:

If complete specifications on kitchen cabinets desired check here ☐

Name_____

Address_____

BOYLE'S "BAYONNE"

READY TO LAY ROOF and DECK CLOTH

The ideal covering for Porch Floors, Decks of Piazzas and Sun Parlors

WATERPROOF
WEATHERPROOF
DURABLE
FLEXIBLE

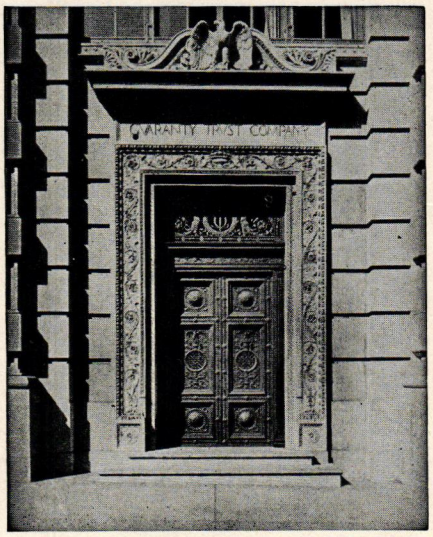
Lays flat and stays flat. Requires no white lead bedding. Will not buckle or peel.

Write for Sample Book S.

BOYLE'S BAYONNE ROOF AND DECK CLOTH

REG. U. S. PAT. OFF.

JOHN BOYLE & CO., Inc.
Established 1860
112-114 DUANE STREET, NEW YORK
1317-1319 PINE STREET, ST. LOUIS



GUARANTY TRUST COMPANY
Fifth Ave., and 44th St., New York City
Cross & Cross, Architects, New York City

Carving executed by skilled craftsmen in granite has an everlasting permanency and a technique not obtained in other building mediums as illustrated by the entrance of the Guaranty Trust Company.

Your creations may have these outstanding qualities by specifying

MOUNT AIRY GRANITE

J. D. SARGENT GRANITE CO.
MT. AIRY, N. C.
30 East 42nd St., New York 127 N. Dearborn St., Chicago
615 Witherspoon Building, Philadelphia

Leonard Water Mixing Valve



THERMOSTAT control. Easy to operate, any flow at any temperature. Solid metal thermostat automatically maintains water temperatures.

The complete story is told in our catalog. Mailed on request.

Manufactured by

LEONARD-ROOKE COMPANY

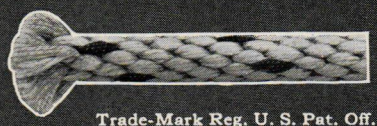
Incorporated 1913

Providence, Rhode Island



Trade-Mark

SAMSON SPOT SASH CORD



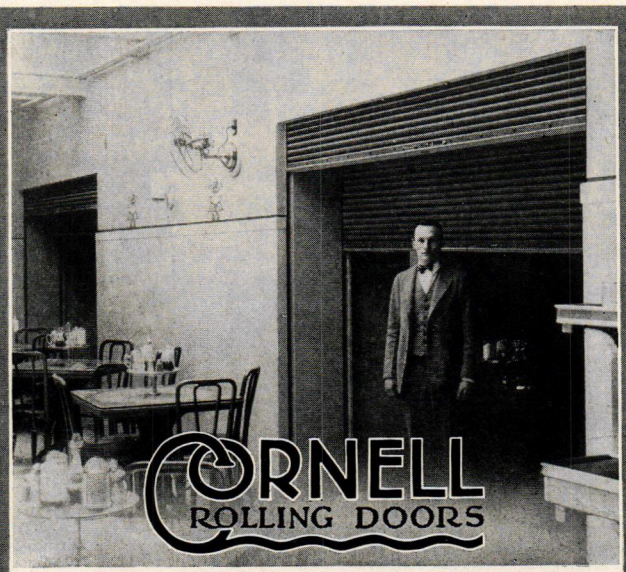
Trade-Mark Reg. U. S. Pat. Off.

MADE of extra quality stock, carefully inspected, and guaranteed free from imperfections of braid or finish. No adulteration to increase weight and decrease wear.

SEND FOR CATALOG AND SAMPLES

SAMSON CORDAGE WORKS

BOSTON, MASS., U. S. A.



Double Guarded Against Flame!

IN restaurants, hotels, garages, wherever the danger of severe fire exposure compels two fire doors, nothing assures greater protection than Cornell Steel Rolling Fire Doors. They close automatically at a temperature of 150 degrees Fahrenheit, making an impassable barrier, against flame and heat.

Easily operable at all times, rolling up and out of the way when not in use. Fire doors subjected to severe fire tests, passed and labeled by an inspector of the Underwriters Laboratories, Inc.

Write for Catalog. Cornell Iron Works, Inc., 3620-3640 13th Street, Long Island City, New York City.

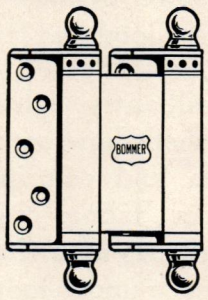
Established 1846

Things to adore

Bommer Spring Hinges

are adorable on a door

Catalog No. 50 mailed free



See details in "Sweet's"

Equip your doors

with them and know

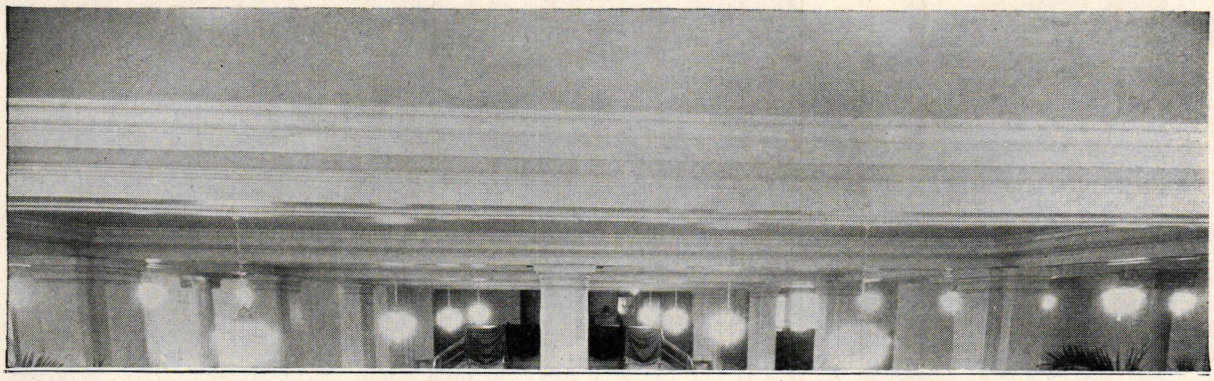
COMFORT

Don't pull against the stream—
float with the BOMMER tide

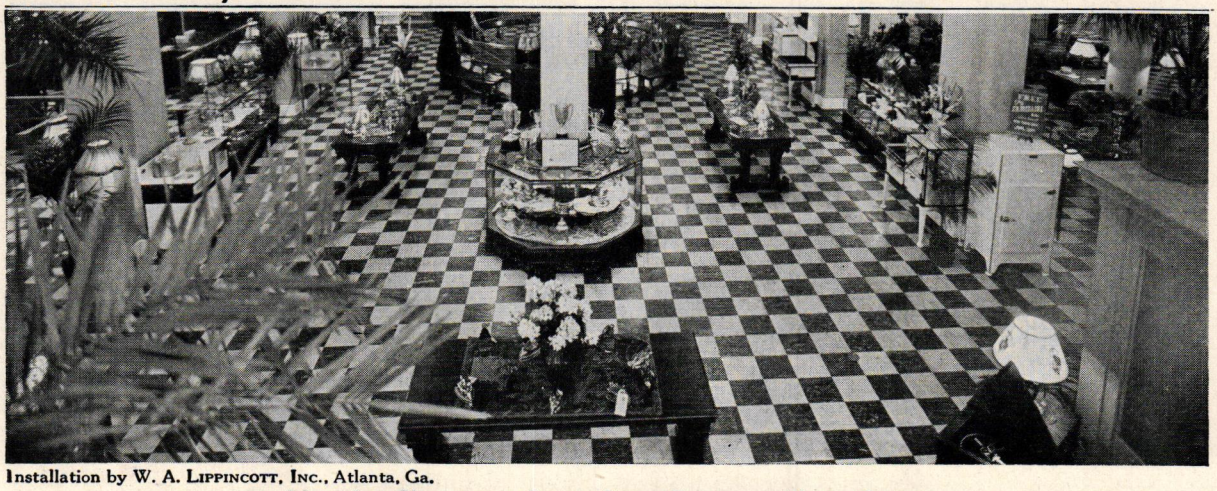
Bommer Spring Hinges

are the best

Bommer Spring Hinge Co., Brooklyn, N. Y.



Beauty and Wear for the Showroom



Installation by W. A. LIPPINCOTT, INC., Atlanta, Ga.

Main floor Showroom — Georgia Power Company, Atlanta, Georgia

Where floors are called upon to withstand the tread of thousands of feet daily, and at the same time conform in appearance and dignity to palatial store fittings, architects now specify Goodyear Rubber Tiling

In brilliantly lighted, handsomely furnished showrooms, the beauty of design and coloring of Goodyear Rubber Tiling, together with its ***laboratory cleanliness,*** silence and resilience under foot make it easily the preferred flooring. It gives exceptionally long wear and is low priced too, when quality is considered.

Goodyear Rubber Tiling offers the same outstanding advantages to architects designing churches, theatres, hospitals, libraries, clubs, shops, offices and homes.

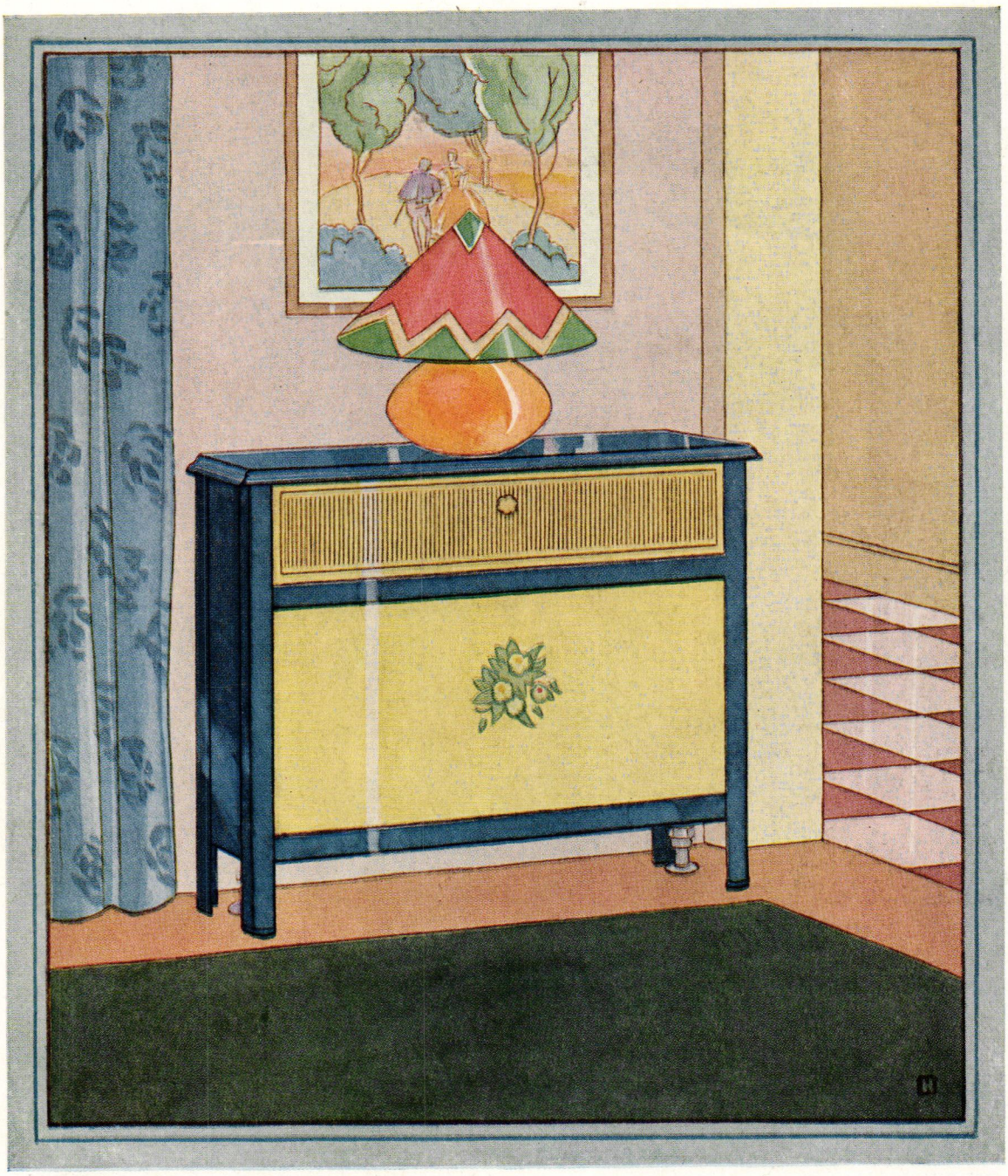
Your choice of a wide range of colors and designs. Complete architectural data gladly forwarded. Address Goodyear, Akron, Ohio, or Los Angeles, California.

The Greatest Name in Rubber

GOODYEAR

Copyright 1929, by The Goodyear Tire & Rubber Co., Inc.

RUBBER TILING



THE MODINE CABINET HEATER

Replaces Ordinary Radiators and Enclosures

THOSE devoted to the designing of beautiful homes cannot help but have a deep professional interest in Modine Cabinet Heaters . . . . Obviously, they enhance room beauty by blending unobtrusively into any scheme of room decoration . . . . Better heating . . . more healthful, more easily controlled . . . is a proven engineering fact that has been demonstrated by six years of field and laboratory service . . . . The floor type is illustrated above. The Wall Type Cabinet Heater is also available and is recommended where space saving is a factor.

Our Newest Catalog, in full color, will give you complete facts . . . Your copy is awaiting your request.

Originators of
COPPER RADIATION

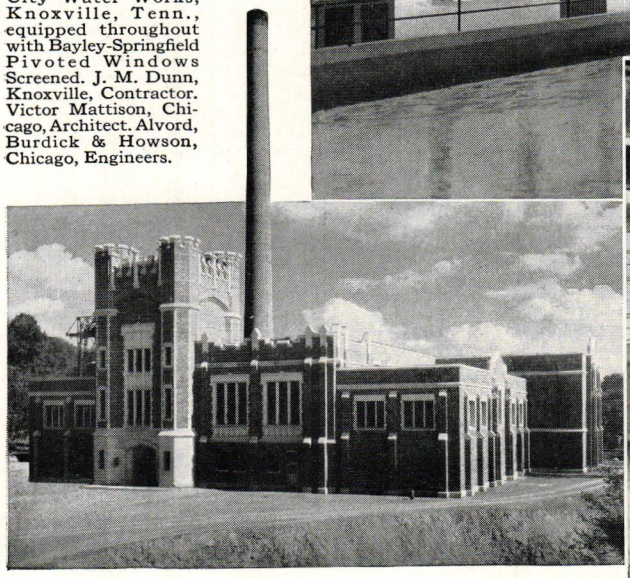
USED IN PLACE OF CAST IRON RADIATION SINCE 1922

Manufacturers of
MODINE UNIT HEATERS

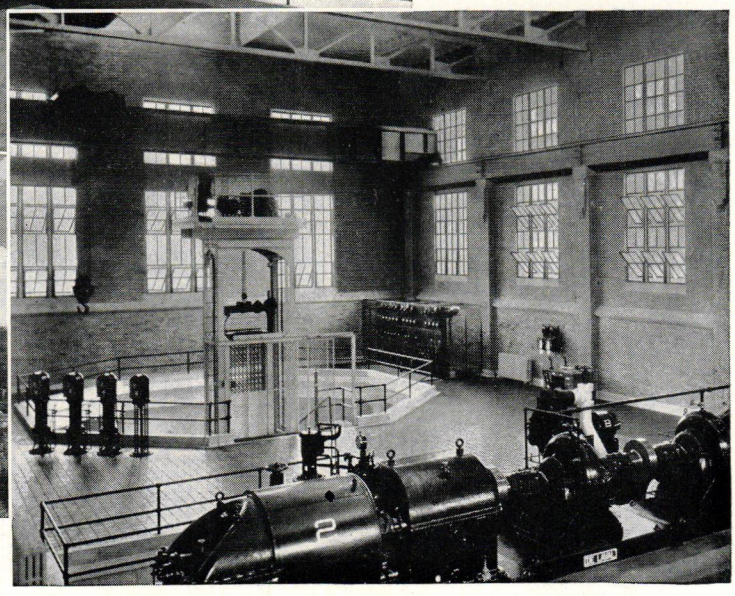
MODINE MANUFACTURING CO., (Heating Division) 1722 Racine St., RACINE, WIS.
Branch Offices in all Large Cities . . . . . London Office: S. G. LEACH & CO. Ltd., 26-30 Artillery Lane.



Interior views showing Bayley-Springfield Pivoted Windows Screened in use.



City Water Works, Knoxville, Tenn., equipped throughout with Bayley-Springfield Pivoted Windows Screened. J. M. Dunn, Knoxville, Contractor. Victor Mattison, Chicago, Architect. Alvord, Burdick & Howson, Chicago, Engineers.



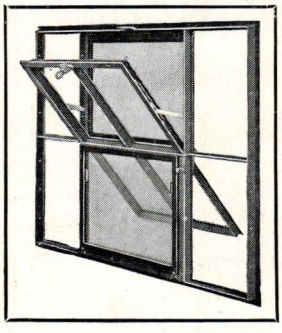
Designed . .

for the purpose it so well serves

THE Bayley-Springfield Pivoted Window Screened provides efficient, economical and attractive screening because it is literally built around the screens and is not the ordinary pivoted window changed, altered or made over for screen equipment.

This helps to explain its remarkable growth in use and popularity since 1914 when first introduced. It is widely used today in bakeries, packing houses, candy factories, dairies and other buildings where foods are prepared, and also in textile mills, chemical plants, and power houses where protection to materials or machinery is desirable.

No trouble to open, position and close these ventilators. Screens do not move, screen contact does not flex. Screens easily removed, without aid of tools, for cleaning and winter storage. Sections, 1½″ deep — a special feature of all Bayley-Springfield Windows.



Call in a Bayley-Springfield representative when preparing plans and writing specifications, and let him give you helpful window suggestions drawn from his extensive experience and specialized training. This is a free Bayley-Springfield service, always cheerfully given.

Complete sales and installation service is furnished through district offices in the larger cities and agencies throughout the country — A.I.A. File No. 16e and Sweet's.

THE WILLIAM BAYLEY COMPANY
134 North St., Springfield, Ohio

Bayley-Springfield Steel Windows

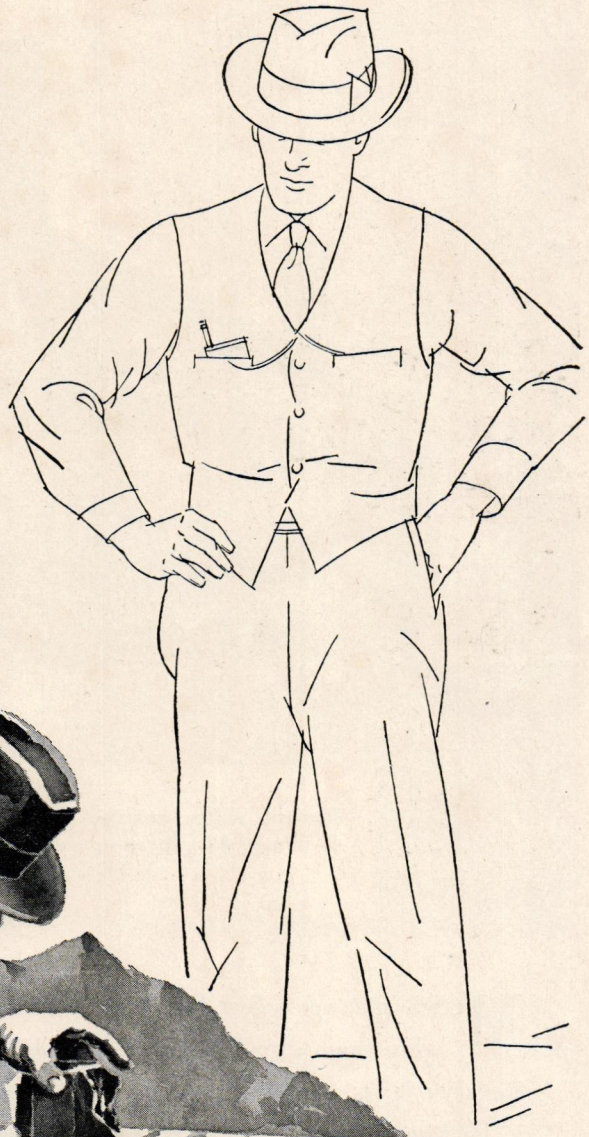
New York, 67 W. 44th St.
Boston, 5 Park St.
Chicago, 310 S. Michigan Ave.
Atlanta, 407 Bona Allen Bldg.
Sales Agencies in Principal Cities

The Invisible Superintendent at the Mortar Box *Assures Plastic Mortar*

UNLESS the architect specifies a plastic mortar, the contractor is unable to do quick, neat, economical brickwork.

One part BRIXMENT, three parts sand—no lime, no portland—make a mortar as strong as the brick itself and *unusually* easy to spread. Moreover, when the bricklayer throws up a head-joint, the mortar sticks to the brick so that he rarely has to stoop to the board for more mortar. This unusual plasticity is due to three things: The high magnesia content of the rock from which BRIXMENT is made; the extreme fineness to which it is ground; a small amount of mineral oil added during manufacture. BRIXMENT contains no lime and none is used in the mix. Louisville Cement Company, *Incorporated,* Louisville, Kentucky.

District Sales Offices: 1610 Builders Bldg., *Chicago;* 301 Rose Bldg., *Cleveland;* 602 Murphy Bldg., *Detroit;* 101 Park Ave., *New York*



BRIXMENT
for Mortar and Stucco



The plasticity of BRIXMENT *is especially valuable in laying up soldier courses and arches and in setting tile and blocks, because of the long cross-joint used in such work.*

More and more... *every day*...

THE PROFESSION SWINGS TO CYPRESS



Henry C. Pelton, architect, employed durable Tidewater Red Cypress in this charming residence of L. W. Dommerich, Esq. at Greenwich, Conn.

MORE Tidewater Red Cypress is being used today than ever before in the 300-year history of this durable lumber.

This growing popularity can be explained by the modern preference for enduring materials and the ever-increasing recognition of the qualities of the wood. Architects have found that Tidewater Red Cypress is the most durable lumber they can use to fight the ravages of weather. They have also found that the regular A grade yields a natural interior that is difficult to approximate for warmth and charm of grain.

For securing antique effects in either interiors or exteriors, architects find a strong ally in the "pecky" grades of Tidewater Red Cypress.

Technical data will be supplied gladly by the Southern Cypress Manufacturers' Association, Jacksonville, Florida.

SPECIFY

TIDEWATER RED CYPRESS

"The Wood Eternal"



American Seating Company

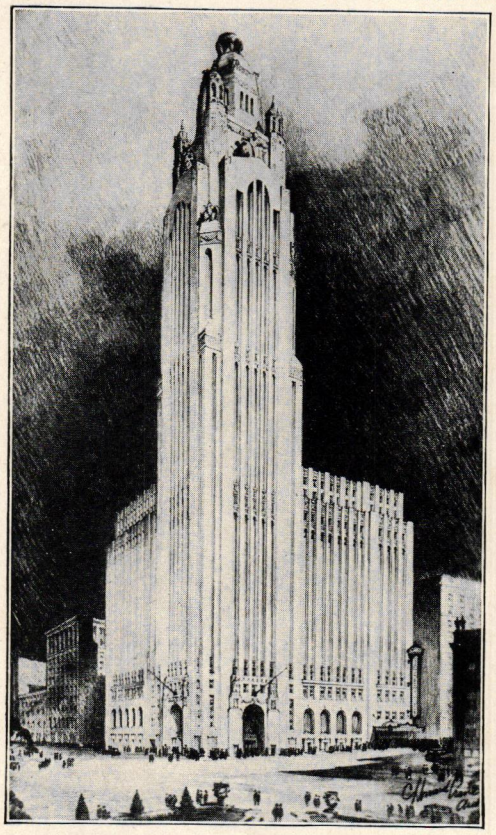
14 East Jackson Boulevard, Chicago, Ill.

Branches in All Principal Cities

UNIVERSITY *of* CHICAGO CHAPEL

Showing Organ Screen and Choir Stalls from the Workrooms of the AMERICAN SEATING COMPANY

Bertram Grosvenor Goodhue and Bertram Grosvenor Goodhue Associates, Architects



American Insurance Union, Columbus, Ohio
Arch.—C. Howard Crane Contr.—John Gill & Sons

SEE OUR Catalogue in SWEETS

One of America's Most Beautiful Towers

IN THE case of the American Insurance Union, beauty is more than skin deep. It is equipped with stair hall doors of United Metal construction, permanent, fire-safe, thoroughly in keeping with a structure of this character.

As one of the largest exclusive producers of Hollow Metal Interior Trim, we offer the Architect a decidedly valuable service on this type of construction. Write us.

The United Metal Products Co.

CANTON, OHIO

Sales and Service Offices in all Principal Cities

Why not?

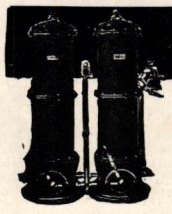
WASH ALL WATER

Everything else is washed with Water
Why not wash the Water
that everything else is washed with?

WHY?

Literature promptly mailed.

Every Building Should Have



Clean, safe, freshly-filtered Water

Install Permanent Protection
Loomis-Manning Water Filter As You Build

Loomis-Manning Filter Distributing Company
(Established 1880)
New York Office: Architects' Building, 101 Park Avenue
Los Angeles Office: 510 Chester Williams Bldg., 215 W. 5th St.
MAIN OFFICE AND MANUFACTURING PLANT 1421-1455 South 37th Street, Philadelphia, Pa.
Cold Water Supplies Hot Water Supplies

Lightweight slabs ... *adaptable to any roof design*



The superior qualities of Pyrobar Short Span Roof Tile strongly recommend it to architects. They find it adaptable to any roof design, whether flat or pitched, of large or small area.

The speed and ease with which these lightweight slabs may be cut to fit around dormers, skylights, hips and valleys is a decided advantage. In addition, they provide a firm nailing deck for ornamental and metal roof coverings. They may be erected in any weather.

Because Pyrobar Roof Tile is an effective insulator, it provides substantial savings in fuel and heating equipment installation. It also helps maintain a low summer temperature. Having a smooth, white under surface, it affords excellent light reflection.

Pyrobar Roof Tile is fireproof. It is made of Structolite, a dense structural gypsum, reinforced with electrically welded, galvanized, steel mats.

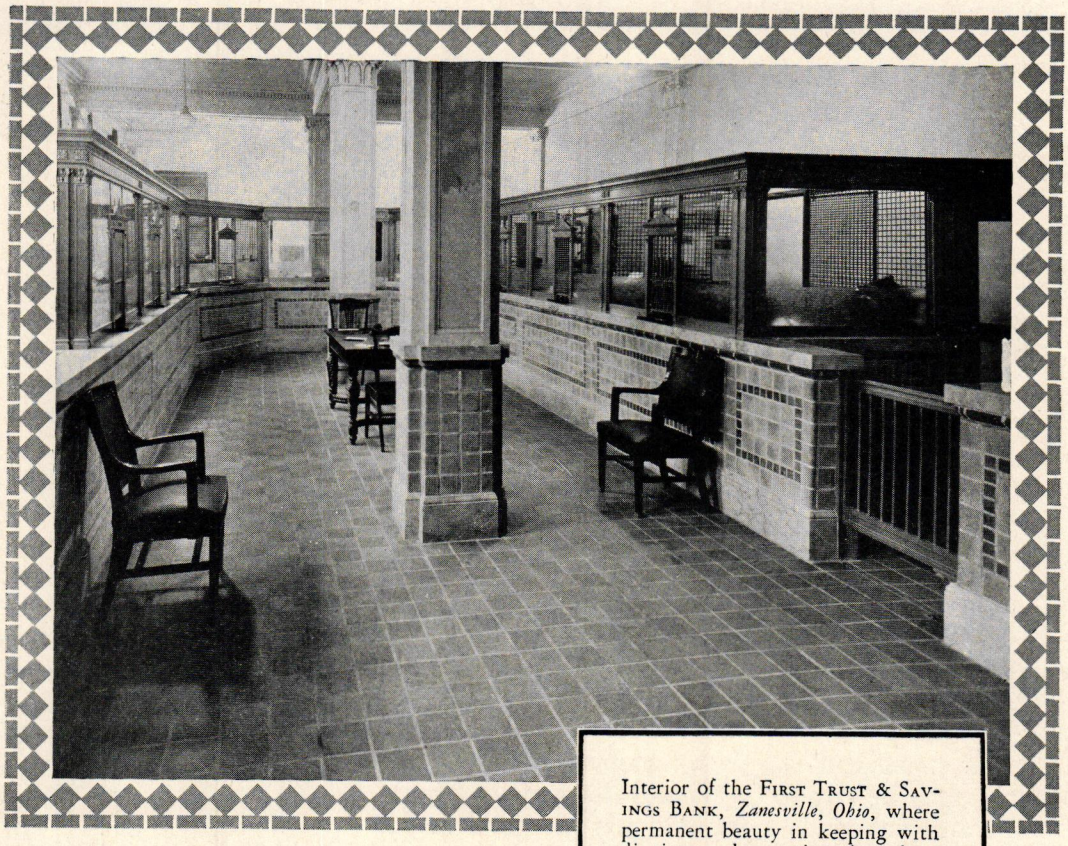
Pyrobar Roof Tile is low in cost, especially when used in combination with USG Bulb Tee sub-purlins.

An engineering and construction service is available to assist architects in designs and estimates. No obligation.

UNITED STATES GYPSUM COMPANY
Department 28-J
General Offices: 300 W. Adams St., Chicago, Ill.
Canadian Gypsum Company, Limited, Hillyard St., Hamilton, Ont.
Sole Canadian Distributor

PYROBAR USG

SHORT SPAN ROOF TILE



Interior of the First Trust & Savings Bank, *Zanesville, Ohio*, where permanent beauty in keeping with dignity and prestige has been achieved through the use of Mosaic Faience Tiles. The floor is of 6 x 6 Mosaic Ironstone, in an alternating pattern of two shades. The counter front is finished with 4¼ x 4¼ Mosaic Faience in a pleasing yellow, and the 2 x 2 border and 6 x 2 cap are in a blending red tone. The Architect is J. R. German, Zanesville, and the Tile Contractors are the Shaw-Hughes Tile Company, also of Zanesville.

MOSAIC TILES *prove effective in Bank Buildings*

REAL TILES, with their modern decorative charm, give the architect wide scope for expression. So great is the variety of colors, sizes and kinds in which Mosaic Tiles are obtainable, that the possibilities for their application are practically limitless.

In a financial institution, for example, enduring Mosaic Tiles afford the means to suggest permanence, dignity—and withal a warm friendliness. Color and interesting patterns can banish all effect of coldness, permitting a distinctive treatment which is still within conventional bounds.

The gleaming beauty of Mosaic Tiles is a beauty that does not fade. The tread of many feet will not mar their surface. Time and wear cannot affect them. A quick, easy cleaning will always restore their original charm. It is genuine economy to employ Mosaic Tiles. Their lasting qualities make them preferred material and they eliminate later costs of renovation and repair. Our Design Department welcomes the opportunity to furnish suggestions or layouts, or to execute details of a projected design.

MOSAIC

The name "Mosaic" is stamped on all products of The Mosaic Tile Company, which include ceramic mosaics, vitreous, semi-vitreous, wall and faience tiles, as well as "All-Tile" bathroom accessories. The word "Mosaic" should be used in writing tile specifications.

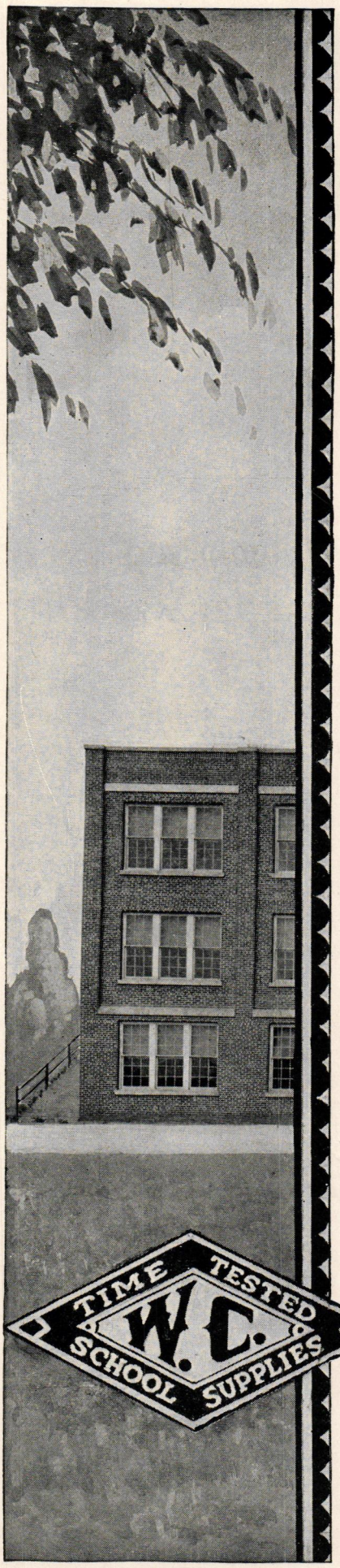
THE MOSAIC TILE COMPANY

Makers of Fine Keramic Tiles

706 COOPERMILL ROAD • ZANESVILLE, OHIO

NEW YORK • CHICAGO • ST. LOUIS • LOS ANGELES • SAN FRANCISCO

MOSAIC TILES



Sterling Lifelong Blackboard

So Dependable It Needs No Alternate

STERLING Lifelong Blackboard has proved its superiority in actual service in thousands of schools and colleges everywhere. You can specify it for *any* school room installation where quality is of importance.

A permanent investment, you can be certain of its performance, for it is warp and buckle proof, strictly fireproof,—with a body that seasons and improves with age. And its jet black writing surface takes a clearer, cleaner chalk mark—erases easily, and is easier to write upon.

When you specify "Sterling" you may be sure you have specified complete and lasting blackboard satisfaction.

Our pledge of satisfaction stands behind this finer product. Each foot that leaves our factories must perform to uphold our 46 year old reputation. Sterling Lifelong Blackboard with its many outstanding features is a product that every architect should know.

Free to Architects

A. I. A. File No. 35-b-12

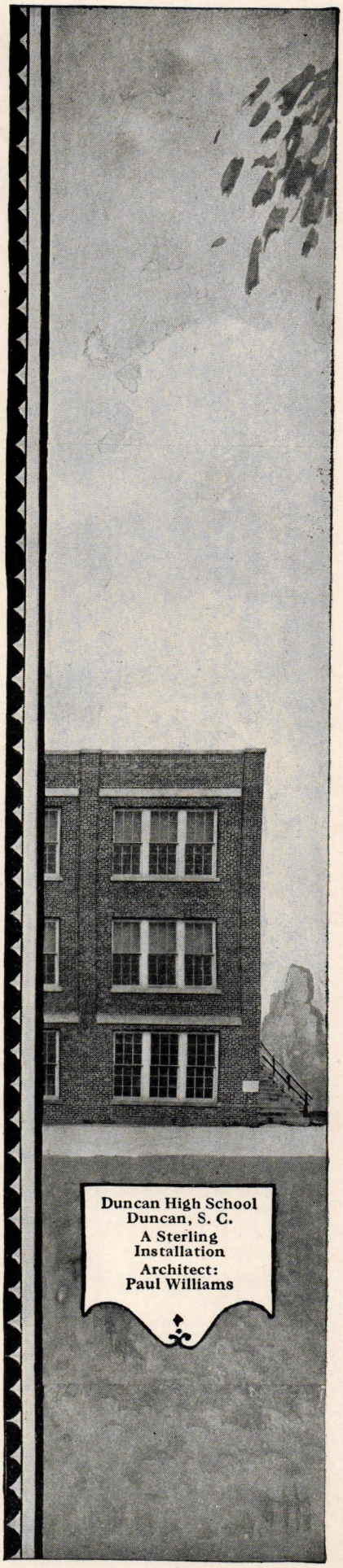
Prepared for you by an Architect—ready for your files—15 pages of plans, elevations, and detailed specifications for installation of *any* blackboard. Write for free copy and sample. Address Dept. XXS6.

Weber Costello Co.

CHICAGO HEIGHTS, ILLINOIS

Makers of

Sterling Lifelong Blackboard
Old Reliable Hyloplate
Globes · Maps · Erasers · Crayon



Duncan High School
Duncan, S. C.
A Sterling
Installation
Architect:
Paul Williams



The design of this bronze housing permits a neat and unobtrusive installation at the transom bar of steel casements. Note brass roller and heavy duty, Swedish steel spring.

Bronze channels guide the edges of the screen. Spring bronze member prevents screen slamming up into housing when released. It also deflects the edge of screen back into channel when the netting is accidentally pushed out.

Every Detail Designed *to* Give Satisfaction

The enduring satisfaction which Chamberlin Roll Screens provide results not only from superior design, but from the extreme care which Chamberlin has exercised in perfecting every detail. Take the matter of corrosion. Bronze is the only commercially practical metal for screens that will withstand corrosion — therefore, Chamberlin Roll Screens are built exclusively of bronze with the added feature of an oxidized statuary finish on all visible parts. Then in the matter of trouble-free operation. Consider the bronze bearings and the patented Chamberlin Roll Screen guides illustrated in the accompanying detail. As to appearance—the design and unequalled compactness of Chamberlin Roll Screens provide greater architectural adaptability. Small dimensions permit the rolling mechanism to be hidden in the construction at the head of ventilators or neatly installed against the top framing or on the face of fixed transom bars.

Positive Screening — Easy Operation — Expert Installation

Chamberlin Roll Screens enable unobtrusive screening of only the swing leaves of combination units — avoiding fly pockets at stationary leaves and transom, and of darkening with screens only the minimum area. And with all this, screen operation is positive, quick and easy as that of a window shade. Chamberlin Roll Screens are installed and backed by Chamberlin, nationally known for nearly 40 years for superior weather strip installation. Write for catalog.

Advantages of this Modern Screen

Rolls up out of sight.
Operates like a shade.
No wear and tear on drapes.
More daylight and ventilation.
No rain spattering thru dusty screens.
No annual storage and repairs.
No under-sill operators.
Windows easily cleaned.
Always ready for use.

ROLL SCREEN DIVISION

CHAMBERLIN METAL WEATHER STRIP CO.

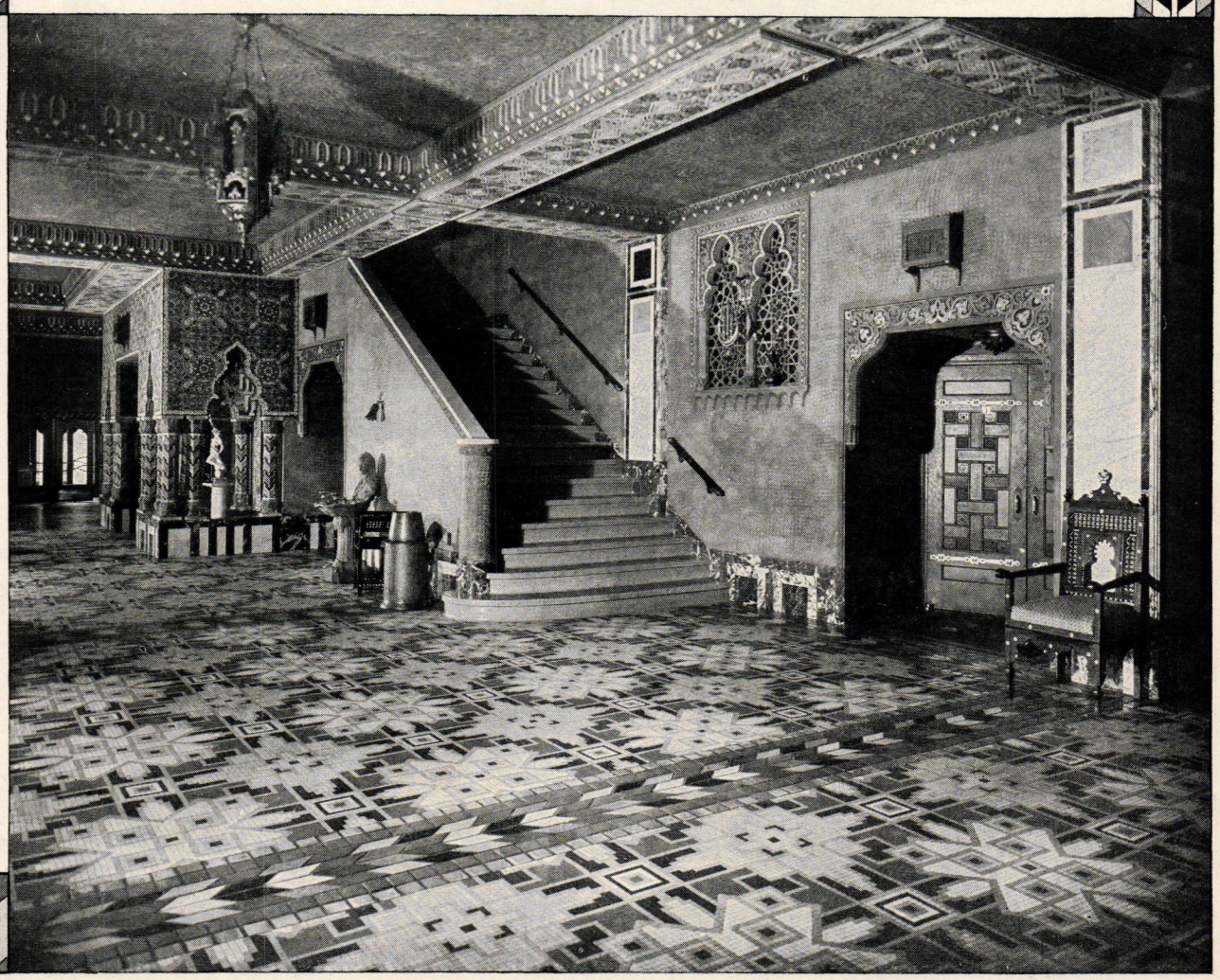
West Lafayette Boulevard Detroit, Michigan

Over 100 Sales-Installation Branches Throughout the United States

CHAMBERLIN ROLL SCREENS

DISAPPEARING - ALL BRONZE

Weather Strips for Steel Casements, Wood Windows and Doors; Automatic Interior Door Bottoms; Window and Door Calking



A dramatic use of Keramic Tiles in the lobby of the Avalon Theatre, Chicago. Ceramic mosaic and faience tiles were used to create the strikingly effective floor. John Eberson, Architect.

FORMING the floor of this magnificent Moorish interior, Keramic Tiles—*real tiles*—once more demonstrate their remarkable adaptability to *all* types of interiors.

So widely varied are Keramic Tiles in color and in pattern . . . so high are they in quality . . . that invariably they prove to be ideally suitable for interpreting a wall or floor design, whether the design is intended for a structure of simple or palatial character.

Remarkable for the many uses to which they can be put, and for the atmosphere of dignity and beauty that they create, Keramic Tiles are equally to be desired for their permanence. These tiles insure beauty that *endures!*

Let Keramic Tiles, with their distinctive charm, interpret more designs for *you*. You and your clients will be more than gratified with the results.



YOU DERIVE the greatest benefit from Keramic Tiles when the tiles are set by experts. Their skilled workmanship is instantly apparent. Select your tiling contractor on the quality of his work.

ASSOCIATED TILE MANUFACTURERS, INC., *420 Lexington Avenue, New York, N.Y.*

ALHAMBRA TILE CO.
AMERICAN ENCAUSTIC TILING CO., Ltd.
CAMBRIDGE TILE MANUFACTURING CO.
FEDERAL TILE COMPANY
FRANKLIN POTTERY
GRUEBY FAIENCE & TILE CO.
MATAWAN TILE CO.
THE MOSAIC TILE CO.
NATIONAL TILE CO.
OLEAN TILE CO.
THE C. PARDEE WORKS
ROSSMAN CORPORATION
STANDARD TILE CO.
THE SPARTA CERAMIC CO.
UNITED STATES ENCAUSTIC TILE WORKS
UNITED STATES QUARRY TILE CO.
WHEATLEY TILE & POTTERY CO.
WHEELING TILE CO.

K E R A M I C T I L E S

Copper Steel Sheets

KEYSTONE COPPER STEEL
AMERICAN SHEET AND TIN PLATE COMPANY PITTSBURGH
TRADE MARK REG. U.S. PAT. OFF.

Of Genuine KEYSTONE Quality

Give maximum *rust-resistance* and lasting satisfaction for all uses—above or below the ground.

By using KEYSTONE Copper Steel you build for the future. Wherever rust and corrosion destroy, KEYSTONE (steel alloyed with copper) affords greatest protection. Tests by leading metallurgists prove this. Unequaled for roofing, spouting, culverts, tanks and all uses requiring maximum service. Insist upon sheets with brand shown above. Inquire of leading metal merchants, and send for booklet.

AMERICAN
STEEL SHEETS *for* Every Purpose

For information address nearest District Sales Office: Chicago, Cincinnati, Denver, Detroit, New Orleans, New York, Philadelphia, Pittsburgh and St. Louis. Contributor to SHEET STEEL TRADE EXTENSION COMMITTEE.

American Sheet and Tin Plate Company
General Offices: Frick Building, PITTSBURGH, PA.
SUBSIDIARY OF
UNITED STATES STEEL CORPORATION

Quality Products — *Dependable Service*

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES:

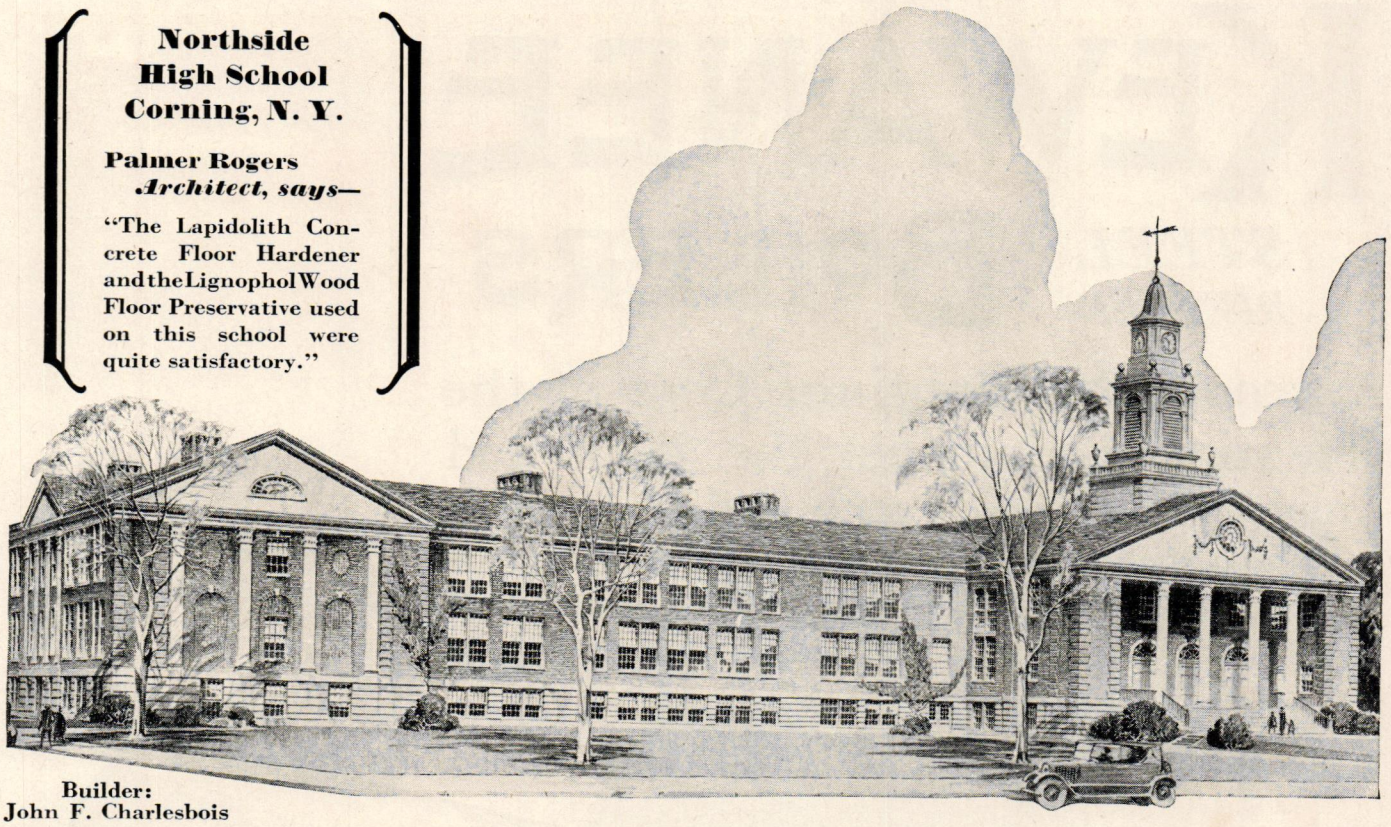
AMERICAN BRIDGE COMPANY
AMERICAN SHEET AND TIN PLATE COMPANY
AMERICAN STEEL AND WIRE COMPANY
CARNEGIE STEEL COMPANY
CYCLONE FENCE COMPANY
FEDERAL SHIPBUILDING AND DRY DOCK COMPANY
ILLINOIS STEEL COMPANY
MINNESOTA STEEL COMPANY
NATIONAL TUBE COMPANY
THE LORAIN STEEL COMPANY
TENNESSEE COAL, IRON & R. R. COMPANY
UNIVERSAL PORTLAND CEMENT COMPANY

Pacific Coast Distributors—United States Steel Products Company, San Francisco, Los Angeles, Portland, Seattle, Honolulu. *Export Distributors*—United States Steel Products Company, New York City

Northside High School Corning, N. Y.

Palmer Rogers *Architect, says—*

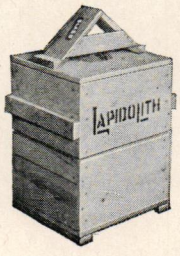
"The Lapidolith Concrete Floor Hardener and the Lignophol Wood Floor Preservative used on this school were quite satisfactory."



Builder:
John F. Charlesbois

To withstand the ceaseless traffic of scuffling, hurrying feet . . .

This School used LAPIDOLITH TRADE MARK on its concrete floors



This liquid chemical hardens, dust-proofs, and wear-proofs by penetrating deep into the porous concrete and binding the loose particles into a homogeneous mass that withstands years of service. If you want granite-hard, smooth concrete floors, be certain they are treated with Lapidolith—the original concrete floor hardener.

Some other Sonneborn Products

Hydrocide Colorless—the invisible waterproofing for exposed exterior walls. Penetrates brick, stone or cement, caulking the pores against the weather.

Cemcoat—Exterior or interior wall coating. Stays white after others turn yellow. Can be washed over endlessly.



LIGNOPHOL on its wood floors

This penetrating preservative for wood floors must not be confused with mere surface treatments that soon wear off or evaporate. Lignophol penetrates and carries to the wood cells life-giving gums and oils that keep the floor from cracking, checking, warping or splintering and protect it from dry or wet rot.

L. SONNEBORN SONS, Inc.
114 Fifth Avenue
New York

COUPON

P.P.-6

L. Sonneborn Sons, Inc., 114 Fifth Ave., New York.

Please send me, without obligation, demonstration samples and literature on:—Lapidolith....; Lignophol....; Cemcoat....; Hydrocide Colorless....; (Check products that interest you.)

Name.....

Address.....

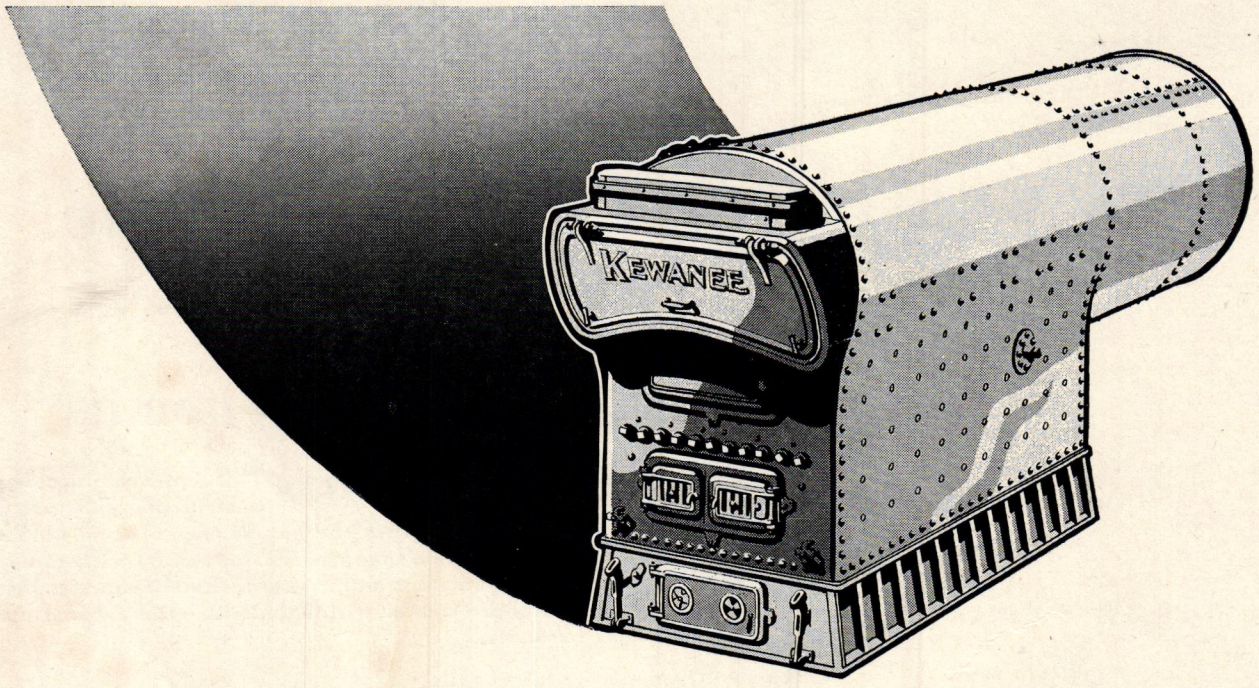
Company.....

Position.....

KEWANEE

STEEL RIVETED BOILERS

Spread the Original Cost of the Heating Boiler over the 25, 30 and more years a Kewanee will be "on the job" and the purchase price becomes relatively unimportant. The first few *extra years of service* more than offset any small additional amount originally paid.



On top of that, a Kewanee will *save fuel every year of its existence.* **So that in the end it actually is the most economical boiler that can be had.**

Owners know that a Kewanee in the basement adds to the value of any building. So they "Build from the Boiler — UP," invariably selecting Kewanee.

For hard coal, soft coal, oil—no matter what the fuel—there's a Kewanee properly designed and built to burn it economically.

KEWANEE BOILER CORPORATION Kewanee, Illinois
Branches in 40 Principal Cities

PENCIL POINTS

An Illustrated Monthly JOURNAL for the DRAFTING ROOM *Edited by* RUSSELL F. WHITEHEAD KENNETH REID & E. L. CLEAVER *Published by* THE PENCIL POINTS PRESS, INC.
Ralph Reinhold, *President*, L. F. Nellis, *Vice-President*, William V. Montgomery, *Secretary*

THE DRAFTSMAN, THE ARCHITECT AND STOCK PLANS

"WHEREAS, IT IS THE interest of the architects at large to encourage young men entering the profession and who naturally start with small house construction, it is detrimental for them to enter the field under conditions which tend to lower their fees, and, consequently, the dignity and character of their work and the entire profession as a whole, which is done when the public is educated that the value of a set of plans for a small house is $25.00 or $50.00."

The above paragraph is quoted from a letter dated May 13th addressed to Mr. Edward C. Kemper, Executive Secretary of the American Institute of Architects, by the Architects' League of Northern New Jersey.

It is our feeling that all draftsmen, all architects and all manufacturers who may contemplate the sale of stock plans should read this letter carefully, which is published in full on page 413 of this issue. The sale of stock plans is either a good thing for American architecture or it is not. The matter we believe should be considered first from the standpoint of the owner, and second with relation to the members of the architectural profession, both principals and subordinates, who are interested in domestic architecture.

Does the stock plan on the average serve the owner well? Does he get the kind of a house he should have at a fair price? Is his building when completed as satisfactory from the standpoint of suitability of the building to its site, proper placing on the plot, plan, selection of materials, etc., etc.? Would an architect or a competent draftsman do a better job in most cases? And would the difference in cost be worth paying for? It is undoubtedly better to have people build from good stock plans than from poor drawings whether stock or otherwise.

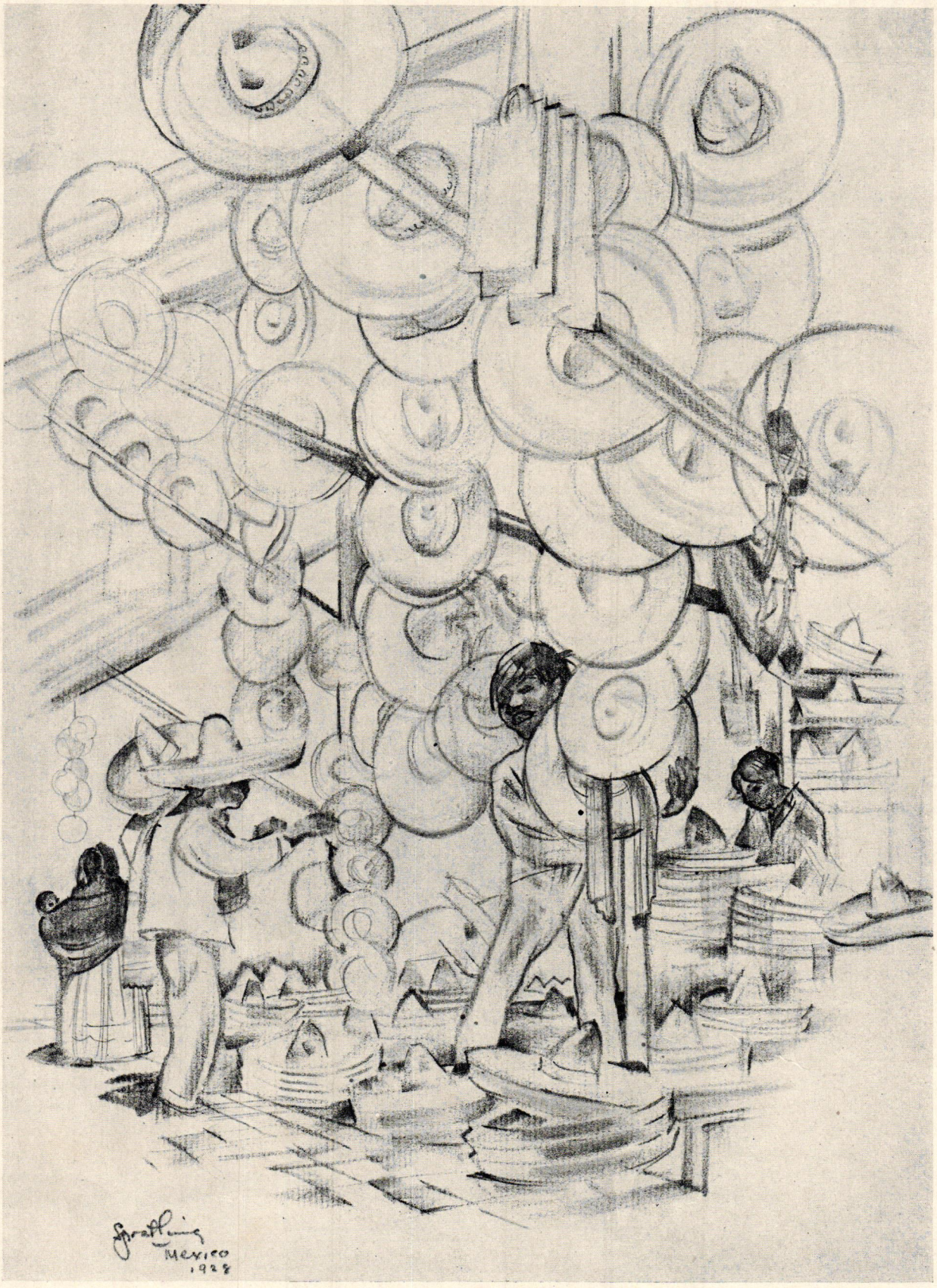
But has the sale of these stock plans improved our small house architecture to a marked degree? Have the agencies selling them aroused public interest in better architecture or have the plans been thrust upon the prospective builder by clever salesmanship and advertising? Isn't it better in the long run, with everything carefully considered, that each residential problem, if only a six-room house, be planned and built under competent architectural supervision?

The Architects' League of Northern New Jersey raises the question. We shall be glad to open our columns to a discussion of this matter and invite all parties at interest to say just what they think about it.

Contents

The Expressive Pencil *By William Spratling*	365
The Architect's Profit and Production Cost *By Charles Kyson*	373
Motorcycling Through Europe *By Ides van der Gracht*	387
Architectural Models from Ivory Soap *By Margaret Postgate*	393
Plates	397-404
Color Plates	*Insert*
Tale-Lights of the A.I.A. Convention *By Hubert G. Ripley*	405
Close Cornices *By Rayne Adams*	409
Drawing by Frank C. Collins	*Insert*
Rotch Scholarship Competition	414
Here & There & This & That	430
The Specification Desk	435

PENCIL POINTS—*Yearly subscription, payable in advance, $3.00 to the U. S. A., Insular Possessions, Cuba and Mexico. Foreign subscriptions in the Postal Union, $1.00 additional for postage; Canadian subscriptions, 50 cents additional. Remittances by International or American Express Money Order or by Draft on a bank in the U. S. Payable in United States Funds. Subscribers are requested to state profession or occupation. TO SUBSCRIBERS: Instructions for change of address shou'd reach us before the twentieth of the month to assure delivery of the forthcoming issue. Please give both old and new addresses. TO CONTRIBUTORS: We are always glad to receive manuscripts, drawings, etc. We will use due care with material in our hands, but cannot be responsible for damages.* *Copyright, 1929, by The Pencil Points Press, Inc. Trade Mark Registered. All rights reserved.* *EDITORIAL AND BUSINESS OFFICES, 419 FOURTH AVENUE, NEW YORK.*



"SOMBREROS"—FROM A PENCIL DRAWING BY WILLIAM SPRATLING
DRAWN WITH A FLAT-LEADED CARPENTER'S PENCIL ON CHARCOAL PAPER

PENCIL POINTS

Volume X June, 1929 Number 6

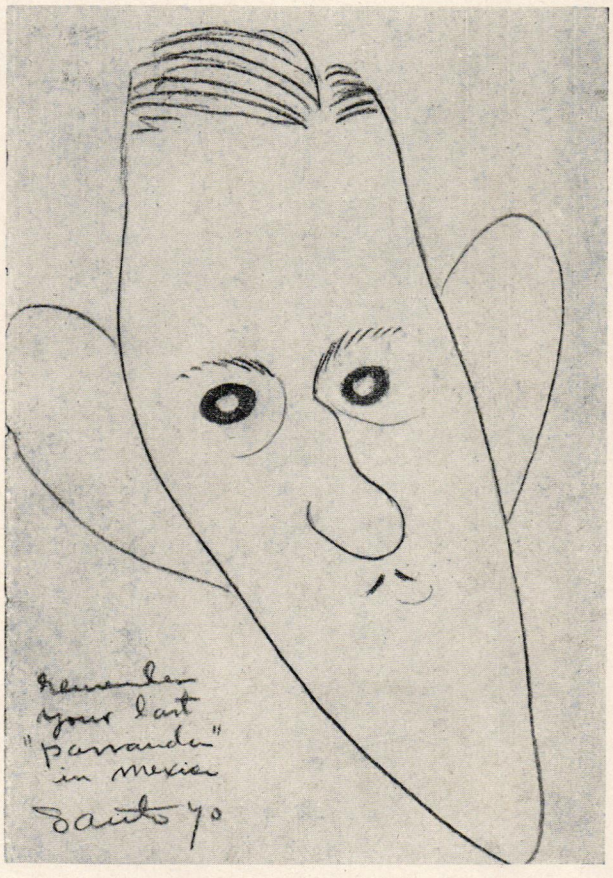
THE EXPRESSIVE PENCIL

By William Spratling

EDITOR'S NOTE:—*William Spratling's articles, illustrated with his own pencil drawings, have appeared from time to time in the pages of various architectural journals, Scribner's, and some foreign publications. Besides being the author of "Old Plantation Houses in Louisiana," a folio of New Orleans drawings, and a book of caricature he has been more recently gathering much material on the cities of Mexico. These drawings, it is expected, will appear shortly in his book on places and people in that country. Mr. Spratling, a member of the A.I.A., has for the past six years been a professor of architecture at Tulane University in New Orleans and has lectured on the Spanish Colonial at the Universidad Nacional de Mexico, where he also holds an honorary professorship in the schools of painting.*

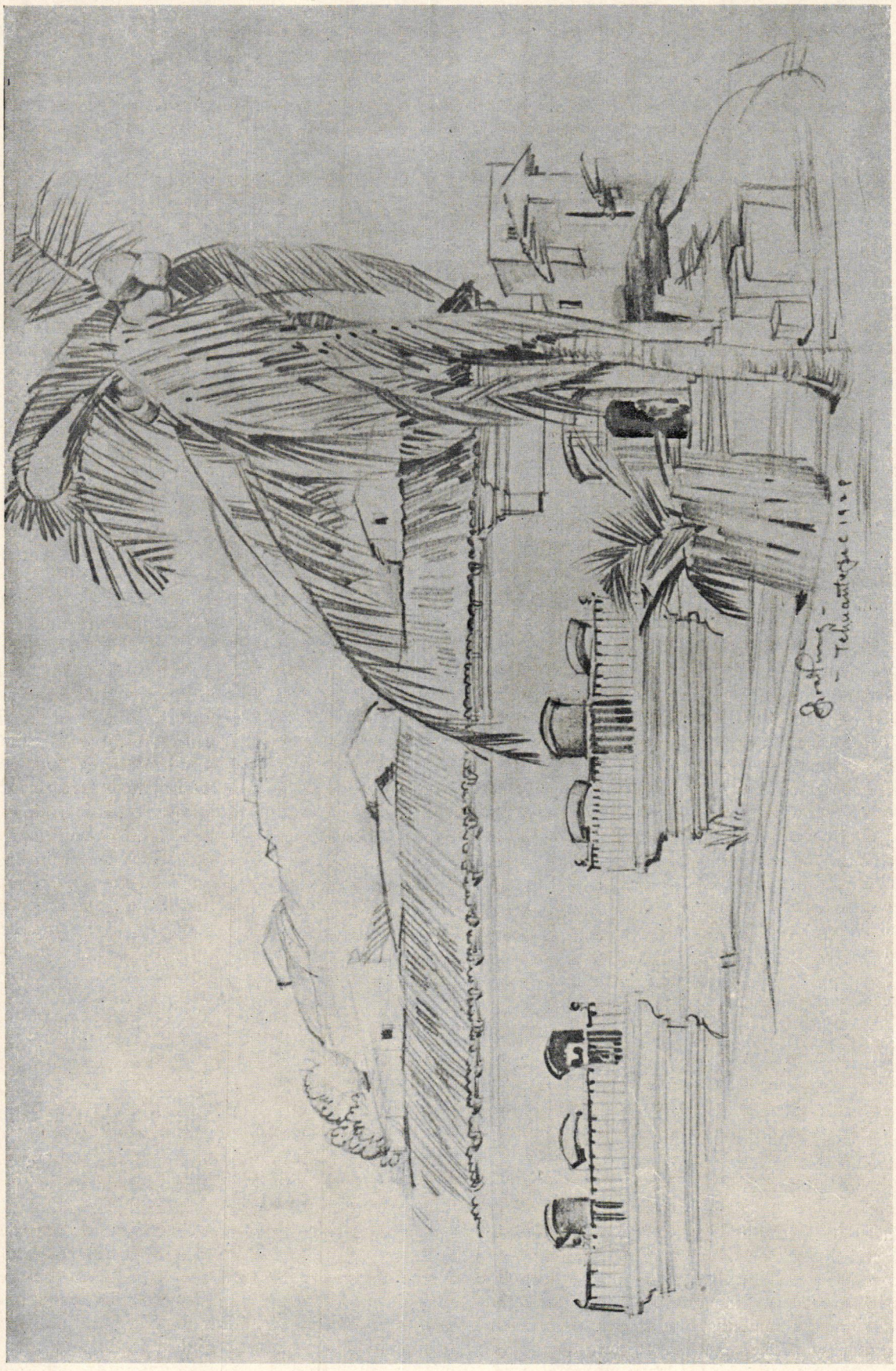
DRAWING WITH A lead pencil may mean a number of things to different people. It may mean a subtle and delicate medium for projecting one's feelings about form on paper. It may be simply the application of a convenient and business-like utensil for architecture in its strictest sense. It may be a means of expression to be indulged in vicariously by people who would otherwise have made illustrators — a means of escape from the humdrum of routine; and for the specialist it may become the most intimate and direct medium possible with which to delineate or chisel, or even model, synthetic form on paper.

I have always thought that a drawing with pencil, in its ideal state, should be done as directly and as casually as one's lips form words into paragraphs, and with as little consciousness of the mechanics of this process as possible.

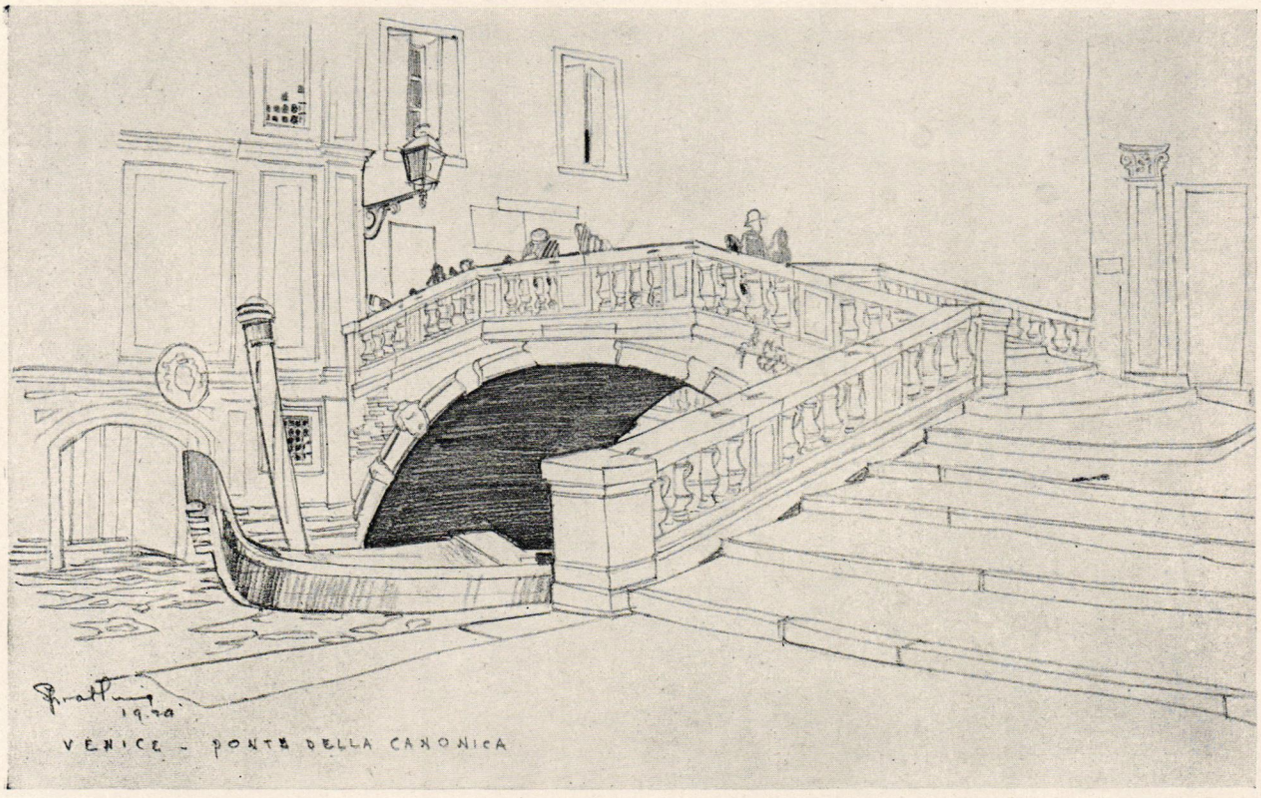


CARICATURE OF THE AUTHOR BY SANTOYO

In classes in freehand drawing and in sketching outdoors it has been for this reason that I have intentionally avoided the thought of "technique" and "treatment" in the student's approach to his problem of arranging what he sees before him on paper. To be a little more definite, I have found that insistence on this kind of detail in the beginning tends to close all doors in the student's mind to the amazing possibilities of his material. One's attack on the problem of special arrangement should be fluent and unhampered with other compulsions. In schools of architecture this is, in all probability, frequently precluded, not only by the necessity of stating architectural fact, but by the imposition of architectural mannerisms and formulated "treatments" of such good old things as trees, foregrounds, and so on, which the architect is inclined to render summarily as so much stage property. Personally I should prefer to see the student given *carte blanche* and allowed to develop himself and to acquire selectively, through visual appreciation of the work of others, his own little tricks (if he has to have tricks), and in the beginning to receive correction and pertinent criticism only in matters of composition, the selection of form and attention to directed planes, and the arrangement of these on his sheet of paper. In this way his eyes remain open to the innate possibilities of that grand old word, "composition" or synthesis, and he is able not only to approach his subject matter less timorously, but is able



FROM A PENCIL SKETCH BY WILLIAM SPRATLING
AN OLD BUILDING IN TEHUANTEPEC, MEXICO



FROM A PENCIL SKETCH BY WILLIAM SPRATLING, MADE IN 1924

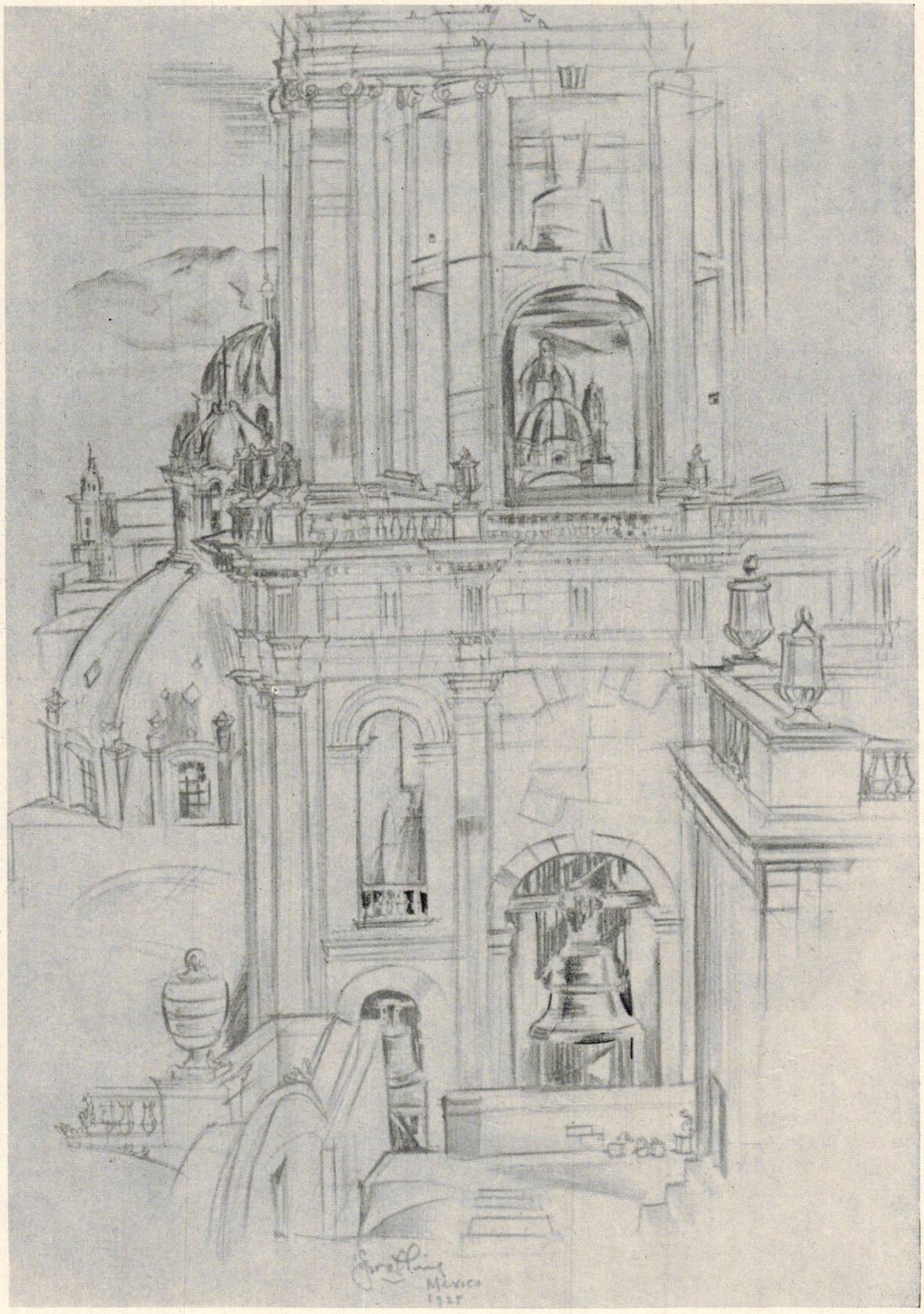
PONTE DELLA CANONICA—VENICE

to enjoy that subtle sense of adventure that comes from a kind of searchingness. Ultimately the objects of his visual world become a means instead of an obstacle to his draftsmanship, and he is able to approach them with a feeling (if he has any feeling) for real interpretation.

The contacts which are afforded one in teaching design or drawing reveal with amazing clarity certain tendencies, weaknesses, and so forth in the approach of beginners to problems which are universal and these may be deeply revealing if one is critical. They enable one to see very clearly for the other person and to formulate certain little critical suggestions which sometimes seem to work. That of course is pleasant. Away from teaching, and from the necessity of phrasing what one considers significant thoughts about the approach to the problem of drawing, these things slip away. It might be added that there are a few cut and dried elemental ideas taught in architectural schools which are not only unsound but which tend to limit the imaginative process itself and to bore the student to the point that he eventually loses sight of the amazing possibilities of his medium—which of course are really unlimited.

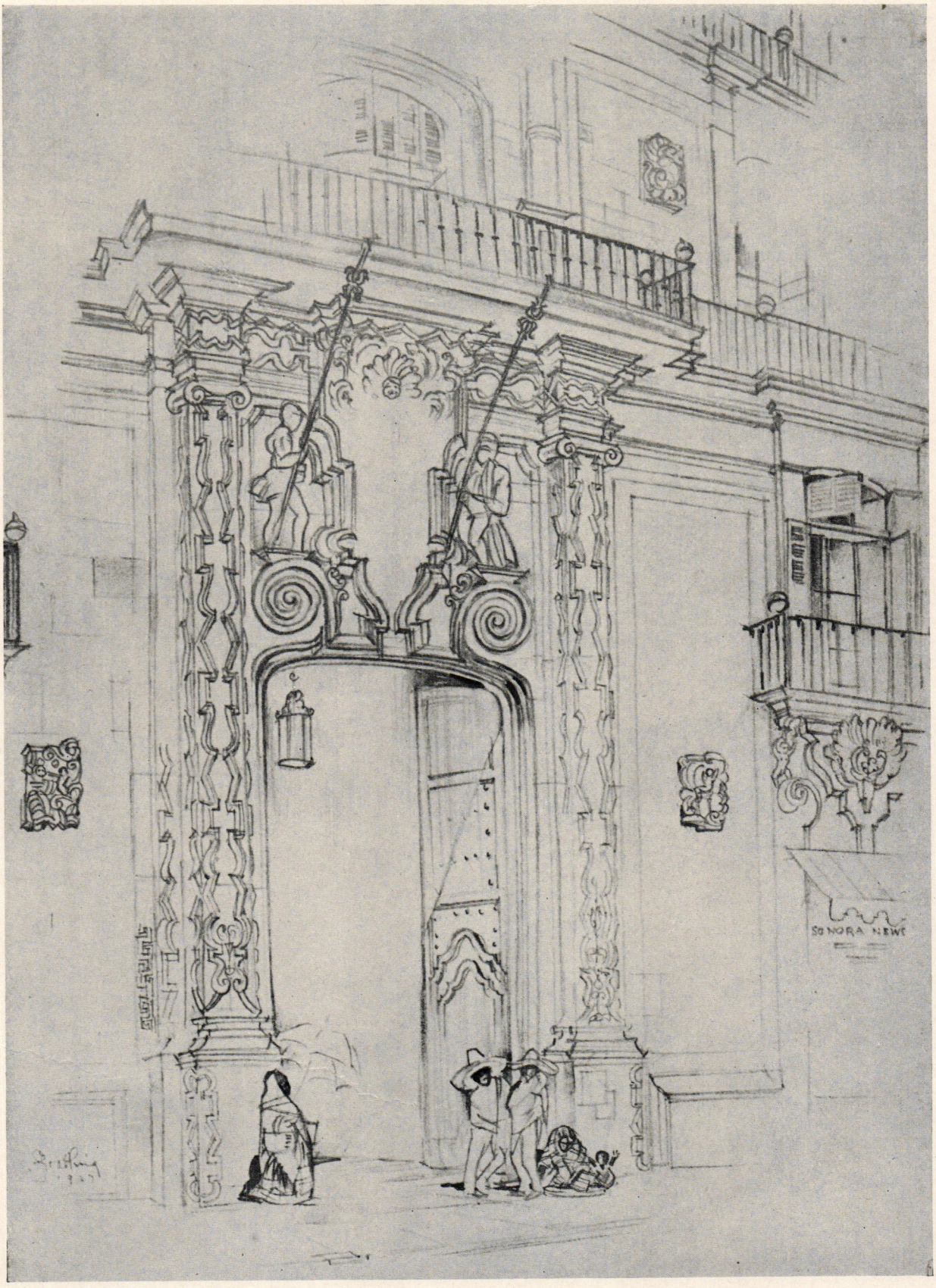
As for myself, I have never bothered to look up formulas for "rendering" or composition, or even sought to justify mentally any personal preoccupation with draftsmanship. I like to draw, and that fact was realized years ago. It was enough. I drew so much that perhaps it became a rather intimate process of my being. I believe in drawing as a function. I believe it is the sound impulse of any one who is sensitive to qualities of form. Psychologically it probably offers a sort of release—the opportunity to materialize one's ideas about a three-dimensional world, and certainly the very real satisfaction of completing something within the confines of a definite space—of winding something up, as it were, to one's own satisfaction. In a sense, these ideas relate not only to interpretative drawing—the portraiture of people, of buildings, of places—but to much of the pencil work which in architects' offices is regarded as routine; in fact, anything which offers the possibility of pushing (or pulling) a subject that is of form to its logical conclusion may become a source of deep satisfaction to the man whose pencil outlines it.

There are a few simple truths about drawing that many take long to learn. For example: in spacial composition such qualities as distance, atmosphere, conventional shades and shadows, are all entirely subordinate in importance to primary conception of form in its relationships within a definite area. Anything else must be accessory. Furthermore (and I should insert that I myself have not yet utilized this principle in any complete sense), I believe the importance of simplification of form is rarely deeply realized among architects and illustrative draftsmen. The primitives, and in the same tradition some few



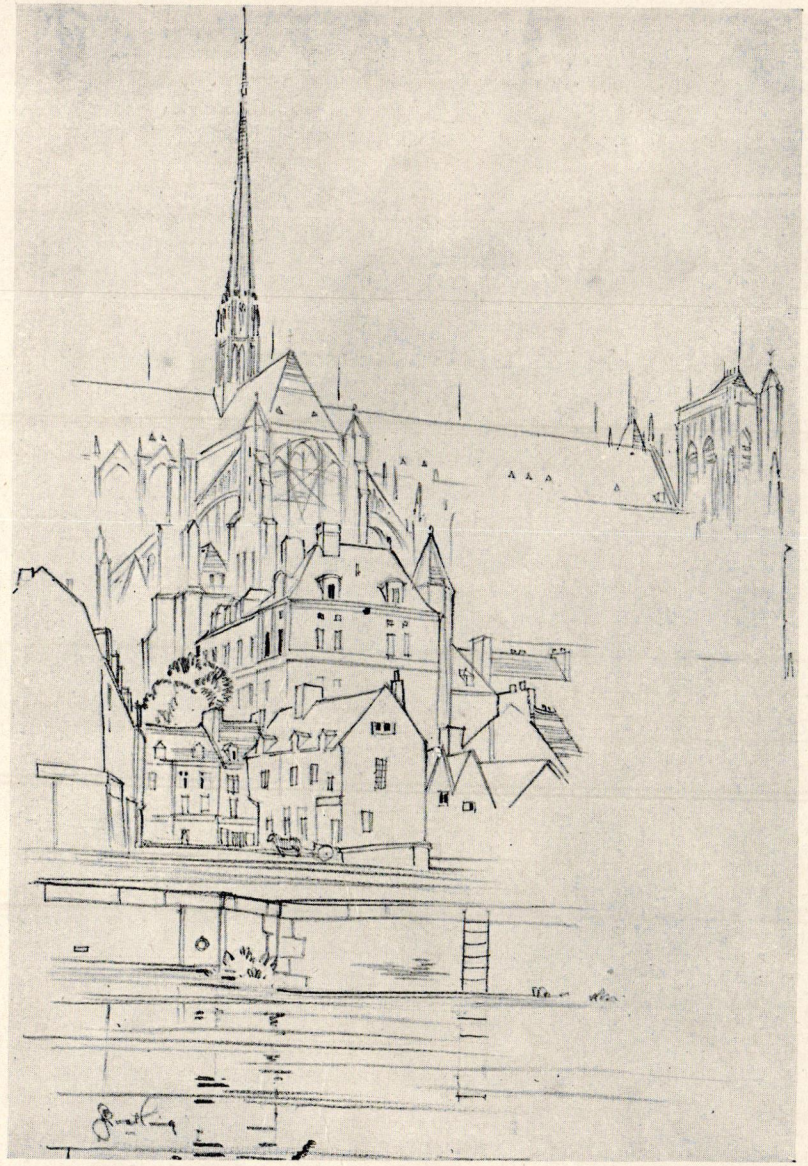
FROM A PENCIL SKETCH BY WILLIAM SPRATLING

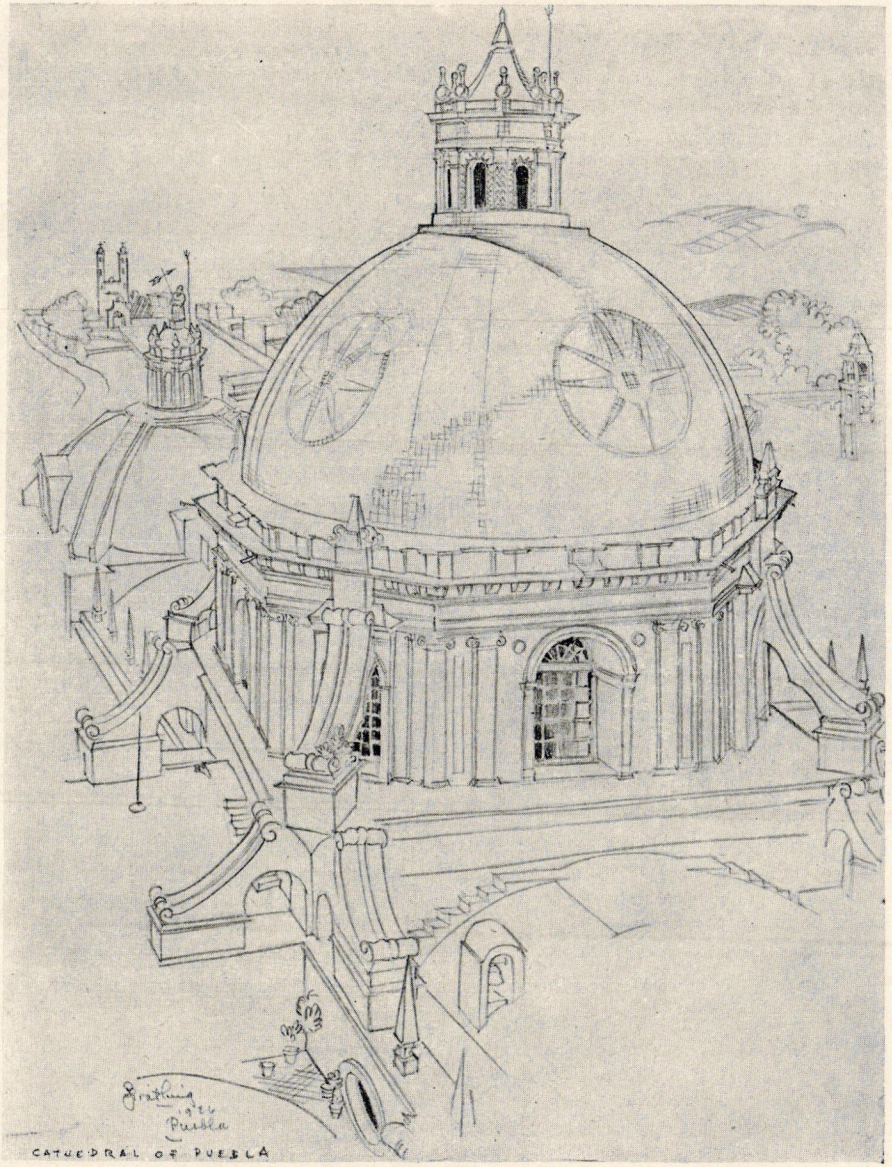
THE CATHEDRAL, MEXICO CITY



FROM A PENCIL SKETCH BY WILLIAM SPRATLING

AN OLD ENTRANCE DOORWAY IN MEXICO



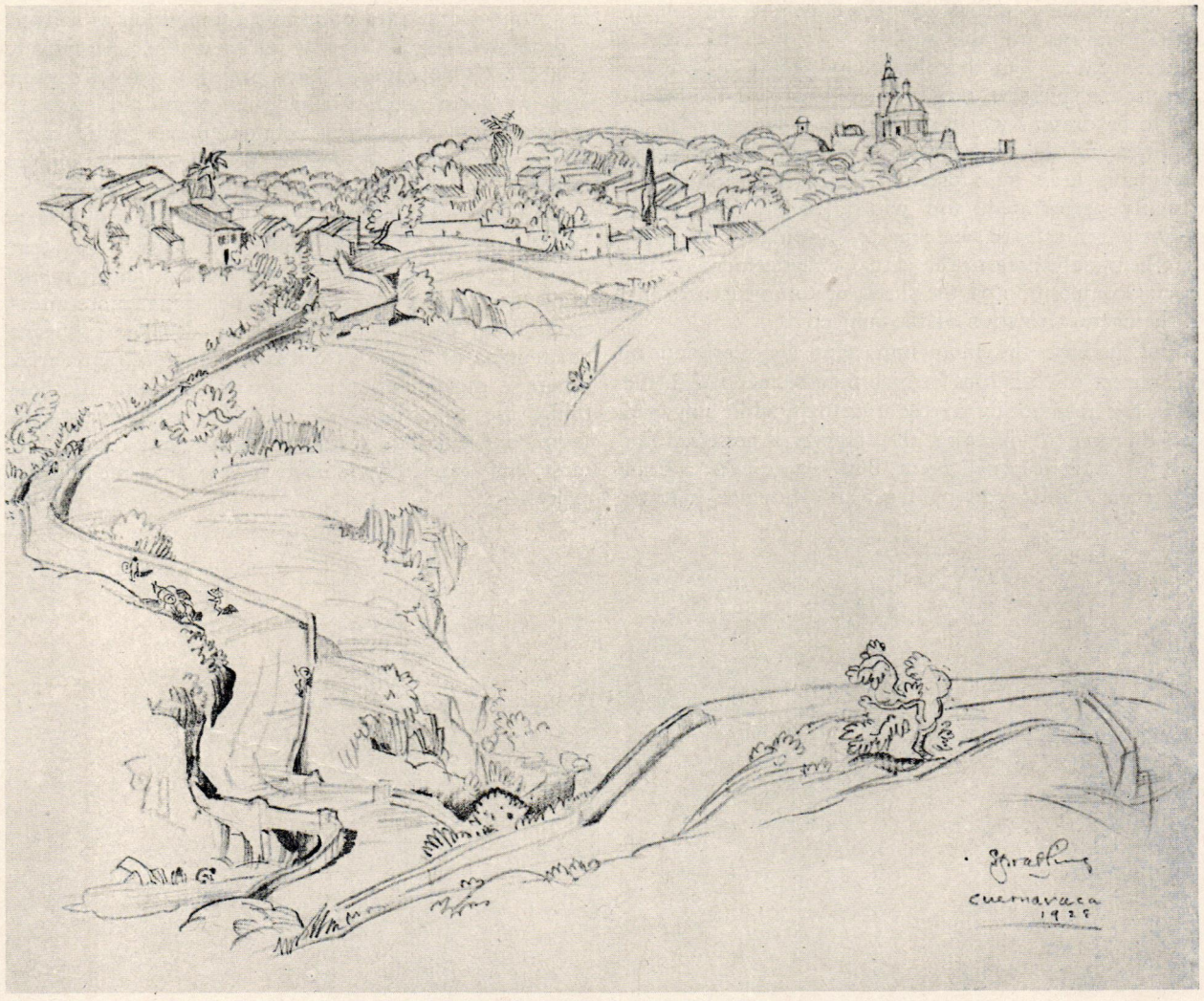


TWO PENCIL SKETCHES BY WILLIAM SPRATLING—AMIENS AND CATHEDRAL OF PUEBLA, MEXICO

THE SKETCH AT THE LEFT WAS MADE IN 1925, THE ONE AT THE RIGHT IN 1926

modernists, gain much power by this means. What I am getting at is that mere adjuncts or detailed statements of fact in a drawing, a mural, or whatever the element may be, are apt to have the effect of scattering any force of design which might otherwise have become significant and powerful composition. However, ideas such as these more intimately concern pure design than the special subject of pencil drawing. And after all, there are many minor problems that are entirely up to the individual and that do not become solved for him until he has, in a sense, made a personal attack on an idea and arrived at his own conclusions. At least I can say that such has been my own experience—that I can never remember a time when there were not certain little phases of method or design that I happened to be very much concerned about. And it just happens that the lead pencil usually answered most of my requirements in the making of drawings.

Except for the work of a few isolated architects and artists in the past, it has only been in recent years that a new appreciation, a new feeling, for the possibilities of the sensitive silver line of the pencil has come into being as a popular or at all widely appreciated medium. True, craftsmen and artists have always loved and found the pencil indispensable. But it has only been within the last decade or so, to my knowledge, that drawings done in pencil have come to be regarded as something complete in themselves, and perhaps of real value as artistic expressions of the men who made them, and as being worthy of inclusion not only in a magazine like "PENCIL POINTS," which happens to be dedicated to things which concern the draftsman, but actually considered publishable in many of the more general publications and in fine books. Besides the readily appreciable artistry of such men as Kenneth Conant, Samuel Chamberlain, Muirhead Bone, the brilliance of whose drawings has been so readily appreciated by the public, much could be said for those magazines which, like "PENCIL POINTS," bring the public to a ready appreciation of



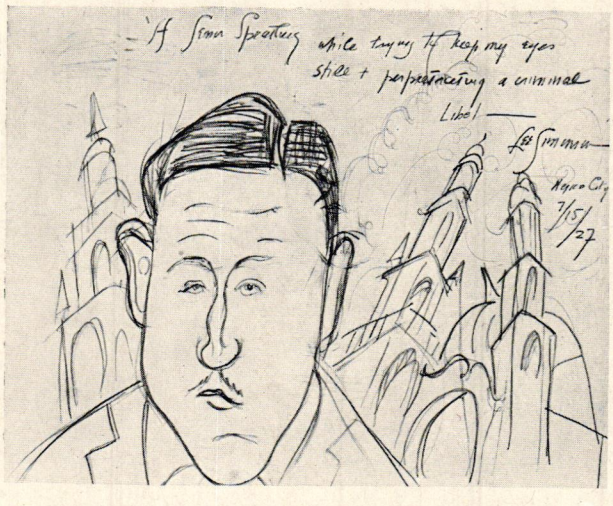
FROM A PENCIL SKETCH MADE IN 1928 BY WILLIAM SPRATLING
VIEW OF CUERNAVACA, MEXICO

the amazing possibilities of the lead pencil as a means of esthetic expression.

Without going into tedious details of my own methods of drawing, paper preferred, pencils recommended (which I am apt to use in much variety, occasionally discovering something new and effective to draw with, as perhaps a carpenter's pencil) there are still one of two questions in this business of drawing which are frequently presented for one's opinion. One of them, which is constantly discussed by architects, is the question of to just what degree the draftsman has the right of altering or rearranging his subject matter. I would say that the question entirely rests upon the perceptive powers and critical faculties of the draftsman (and after all I don't know what more important thing constant interpretive drawing may do for a man if it does not sharpen and intensify his critical faculties). It stands to reason that there are certain things in the characterization of a building, if it is the drawing of a building that is being attempted, which are definitely important and deeply significant, an altering of which might amount to actual travesty of the subject. It may be like a person's face. On the other hand, there are details surrounding pictures, possibly actual parts of the building to be drawn, which are definitely accessory to its qualities and the mere locating of which in the scene may have been by accident of nature or otherwise casually perpetrated, and which, in my estimation, might possibly leave one free to eliminate, rearrange, or otherwise utilize to the actual enhancement of the spacial composition of the sheet, or to an intensifying in the characterization of the subject.

But perhaps the most important consideration in this matter of "liberties" which may be taken with the subject is recognition of the fact that while engaged in the process of drawing, the observer is possessed not only of a facile pencil point, but of two eyes, a head that turns, and a pair of legs, all of which may be used to adjust his vision and against the use of which there is no sound reason in the world. I mean by this that one's sweeping gaze in gathering in a picturization of a spot or a group of buildings is almost invariably affected by certain details such as trees, people, carts, and so on, which may not focus into the final arrangement of the thing to be drawn, but which, as far as the accident of their position is concerned, might quite as easily, and probably to the good of the drawing, be much more significantly located in relation to the dominant area of the sheet. In my own drawings I have frequently seen fit to make some certain minor alterations and at times have not hesitated to simply blot from the consciousness of my mind whole areas of the landscape which did not seem to relate or lend themselves to my purposes or otherwise enhance its importance.

While this is in a sense a utilizing of modernistic principles, I should perhaps add here that I have rarely sought to abstract my material to the point to which many modernists have carried it, and for the simple reason that I have always considered subject matter as important to the idea of plastic composition as rails to a locomotive—being equally indispensable. Moreover, as a pencil draftsman I have probably pushed certain ideas of form much further than would the average architect, for since very young I have found mere places, faces and figures of people, and so on, as intensely interesting in formal materialization or possibilities in themselves as are the architectural facts and forms of buildings: also vice versa. For that matter, the idea might be pushed further and it might be pleaded that there are many other things more interesting than form. There are the deeply significant phenomena of light, its diffusion and resultant darks. There is movement, color and texture, and all these things are important. But for the pencil draftsman form, and line as expressing form, must remain the most obvious necessity and its most logical medium of expression.



CARICATURE OF THE AUTHOR BY LEE SIMONSON

THE ARCHITECT'S PROFIT AND PRODUCTION COST (*Continued*)

Text written by Charles Kyson from data collected and compiled by the
ARCHITECTS' LEAGUE OF HOLLYWOOD

SEEING OURSELVES AS OTHERS SEE US

One of the members of the Cost Committee of the Architects' League of Hollywood had an illuminating experience not so long ago. He was a guest at the round table at the Engineers' Club. These engineers were greatly interested in the efforts of the architects to determine their production costs and put their profession on a more substantial basis. The comments made were enlightening, if not entirely flattering. Some were extremely pointed—all were good-natured. One engineer remarked, "Well, it's about time Architects started putting architecture on a business basis. I never met a group of men that needed to be instructed in the ordinary, rudimentary, basic principles of business more than Architects."

Another man spoke up, "The quarrel I have with the architects is that when it comes to dodging and passing up responsibilities, the average architect has the world beaten. He puts on the airs of a Czar until someone tries to pin some responsibility on him and then he quickly oozes right out of the picture."

A quiet and thoughtful member of the round table contributed the following. "It seems to me the architect's position would be greatly strengthened if he would take his responsibilities more seriously. For instance, I am connected with a firm which is constantly put to the expense and trouble of making detailed drawings for the architect—drawings which are really a part of his work and for which he is supposed to be paid. He makes us do it—we can't help it, but we don't like it and we consider it unfair and unethical. Naturally my firm is not in business for its health and we simply add to our contract price the amount necessary to make sufficient detail drawings to execute the contract. Of course, ultimately the owner pays it. It seems to me the architect should charge enough for his services so that he can afford to do this work and not delegate it to others. In doing so he is without question injuring the dignity and prestige of his position. Usually we are paid in proportion to the responsibility we are willing to assume and properly discharge. This may throw some light on the fact the architect considers himself underpaid. It seems to me this practice doesn't help the standing or position of the architect and I personally know there are a good many other firms that furnish building material who feel the same way about it."

Another engineer who was connected in some way with a merchants' credit bureau verbally threw his hat in the ring. "We do a lot of business with architects and they are the poorest pay of any class of business men with whom we come in contact. In spite of this fact, the side and swank they assume gives me a pain in the neck."

While these opinions were expressed in a bantering spirit of good-nature, and were spoken half in jest, yet it was quite apparent there was considerable feeling back of them and that these men felt they had a substantial basis for their criticism. So let us not hold these criticisms against the engineers, because in a way this particular architect, who was their guest, asked for it. His desire was to get their viewpoint of us, which would help us to see ourselves as others see us. We got it! And, oh my! how it hurt!

It's a lot easier to play the part of Pollyanna and always be "glad" and say pleasant things, but as we are trying to analyze conditions constructively with an idea for their betterment, we are faced with the not altogether joyous task of calling a spade a spade.

WHAT DOES IT REALLY COST TO PRODUCE A SET OF WORKING DRAWINGS FOR A BUILDING?

Now we are getting down to the meat of the cocoanut. We have analyzed what constitutes overhead, we have shown the various methods of distributing overhead in relation to drafting cost, and now we come to the interesting point. What's the answer?

The following is the result of our questionnaire sent to the architects of the United States. Among the great volume of replies we found that 80 architects had furnished data which we could tabulate or use. Many architects stated they had no cost accounting system, or set of books which would enable them to give the cost data we asked for, but for our sakes and their own they wished they had. They are all anxious to ascertain the findings of our investigation. As a matter of fact, such a flood of questions came in as to make it an utter impossibility to answer them. The best we could do was to publish the results.

We wish to take this opportunity to thank all the architects in the United States who have sent us their production costs. They have done a fine constructive work and we appreciate it. All of them spoke kindly words of encouragement and appreciation of our efforts to better the condition of the profession of architecture. Considering the vast amount of hard work we have put in in compiling this data and writing this text, such friendly words of appreciation are most gratifying. This may be fittingly described as our thesis from the University of Hard

Knocks—devoutly we pray that we have graduated!

Our organization is very small and we did not have the available funds to enter into the task of answering the voluminous correspondence on all of these questions put to us. It really would have taken a first-class accountant to answer many of them. There is one crying need which stood forth from all this, and that was the necessity for the architectural organizations to establish some central agency where such information could be obtained.

Fortunately, in a great majority of instances, these replies received by us were made in a very serious and conscientious manner by many architects' offices who have adequate cost systems. Of course, there is no standard or generally recognized method of determining and allocating the overhead of an architect's business and there was a great amount of confusion and questioning. We, however, have made no effort to prove any particular theory of our own, but have tabulated the drafting and overhead costs for various kinds of buildings as we received them, with the idea of supplying the information and letting our readers work out their own conclusions. One fact, however, was most apparent—that in computing their overhead costs the majority of architects did not take into consideration the factor of slack time, when the overhead went right along, and there was an inadequate amount of business in the office. How to care for this factor is perhaps a matter for future investigation.

WHAT IS AVERAGE SERVICE?

In going over the following Table No. 3, showing the actual cost of making the drawings without including any profit to the architect or anything for the cost of supervision, the total cost in percentage is shown in column No. 6, and at the bottom of each group in this column is given the average cost in percent. It is well to analyze this word *average* in this particular connection because presumably there is a decided difference in the architectural service rendered—in the completeness of the plans—those which are *lower* than this *average* and those which are *higher*. The question then would appear to be, do we want to build up our reputation by rendering only *average service*, or do we want to render better than the average? In using the tables in convincing our client, it is well to bear this in mind, if it is our aim to better our profession. It is well to recognize that "Average" cost means "Average" service. Can we architects progress with such a limited goal?

EXPLANATION OF FOLLOWING TABLES NO. 3

Column 1—Your actual cost in dollars paid to the draftsmen.

Column 2—The percentage the drafting room cost bears to the total cost of the building.

Column 3—The overhead in dollars.

Column 4—The overhead in per cent of the cost of the building.

Column 5—Total of the drafting salaries plus the overhead in dollars.

Column 6—Total of the drafting salary plus the overhead expressed in percentage of the total cost of the building.

Column 7—The total cost of building not including architect's fees.

In arriving at the percentage average, it is well to remember that mathematically it is impossible to add the total of percentages and then average them. The average has to be ascertained by taking the totals in dollars at the bottom of the columns and relating these costs in percentages to the total volume of cost of all the buildings as shown in column No. 7. At the bottom of each group the relation between drafting and overhead is shown and the markup of each group.

TABLE NO. 3—RESIDENCES—UNDER $10,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 321	3.21%	$ 254	2.54%	$ 575	5.75%	$ 10,000
105	1.18	409	4.64	514	5.82	8,800
196	3.26	254	4.23	450	7.49	6,000
130	1.30	220	2.20	350	3.50	10,000
200	3.07	365	5.61	565	8.68	6,500
100	1.24	320	4.00	420	5.24	8,000
4,200	1.68	7,175	2.87	11,375	4.55	250,000 (*1*)
94	1.11	163	1.92	257	3.03	8,500
200	2.86	346	4.94	546	7.80	7,000
200	2.22	346	3.84	546	6.06	9,000
$ 5,746	1.77%	$ 9,852	3.04%	$ 15,598	4.81%	$ 323,800

MC (COST MARKUP) = 271.8%

(*1*) Totals of 25 jobs as submitted to us.

TABLE NO. 3—RESIDENCES—$10,000.00 TO $20,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 309	2.05%	$ 379	2.53%	$ 688	4.58%	$ 15,000
441	2.21	569	2.84	1,010	5.05	20,000
130	1.04	300	2.40	430	3.44	12,500
352	2.93	243	2.03	595	4.96	12,000
302	2.50	544	4.50	846	7.00	12,100
850	4.72	305	1.70	1,155	6.42	18,000
150	1.17	210	1.64	360	2.81	12,780
318	1.82	2,310	13.20	2,628	15.02	17,500
122	.69	470	2.67	592	3.36	17,600
200	1.33	782	5.21	982	6.54	15,000
100	.83	389	3.24	489	4.07	12,000
5,664	2.36	8,664	3.61	14,328	5.97	240,000 (*1*)
1,090	2.02	2,158	4.00	3,248	6.02	54,000 (*2*)
915	2.86	1,812	5.67	2,727	8.53	32,000 (*3*)
410	3.36	812	6.65	1,222	10.01	12,200
172	1.43	341	2.84	513	4.27	12,000
325	2.20	644	4.35	969	6.55	14,800
310	2.82	614	5.58	924	8.40	11,000
260	1.63	515	3.22	775	4.85	16,000
385	2.80	762	5.54	1,147	8.34	13,740
500	3.33	990	6.60	1,490	9.93	15,000
370	2.31	733	4.58	1,103	6.89	16,000
400	2.11	792	4.17	1,192	6.28	19,000
420	2.33	832	4.63	1,252	6.96	18,000
410	2.73	812	5.41	1,222	8.14	15,000
1,150	1.92	2,277	3.80	3,427	5.72	60,000 (*4*)
1,600	2.29	3,168	4.52	4,768	6.81	70,000 (*5*)
$17,655	2.25%	$32,427	4.14%	$ 50,082	6.39%	$ 783,220

MC (COST MARKUP) = 283.7%

(*1*) Totals of 16 jobs as submitted to us.
(*2*) Totals of 3 " " " " "
(*3*) Totals of 2 jobs as submitted to us.
(*4*) Totals of 5 " " " " "
(*5*) Totals of 5 jobs as submitted to us.

TABLE NO. 3—RESIDENCES—$40,000.00 TO $100,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 1,249	2.40%	$ 1,550	3.00%	$ 2,799	5.40%	$ 52,000
826	1.38	1,770	2.95	2,596	4.33	60,000
2,470	3.80	2,431	3.74	4,901	7.54	65,000
1,540	3.61	1,320	3.10	2,860	6.71	42,500
1,100	2.26	1,790	3.67	2,890	5.93	48,700
21,879	2.34	38,709	4.14	60,588	6.48	935,000 (*1*)
865	2.13	1,064	2.62	1,929	4.75	40,500
1,100	2.08	1,353	2.55	2,453	4.63	53,000
689	1.64	848	2.02	1,537	3.66	42,000
1,382	3.45	1,700	4.25	3,082	7.70	40,000
1,320	1.89	1,624	2.32	2,944	4.21	70,000
$34,420	2.38%	$54,159	3.74%	$ 88,579	6.12%	$1,448,700

MC (COST MARKUP) = 257.3%

(*1*) Totals of 17 jobs as submitted to us.

TABLE NO. 3—RESIDENCES—$20,000.00 TO $40,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 175	.65%	$ 837	3.10%	$ 1,012	3.75%	$ 27,000
416	1.84	506	2.25	922	4.09	22,500
270	1.04	1,120	4.31	1,390	5.35	25,900
802	3.21	690	2.76	1,492	5.97	25,000
1,205	3.44	1,036	2.96	2,241	6.20	35,000
803	2.95	690	2.53	1,493	5.48	27,200
1,050	2.74	1,715	4.47	2,765	7.21	38,300
150	.57	584	2.24	734	2.81	26,000
307	1.09	357	1.27	664	2.36	28,000
508	1.39	570	1.55	1,078	2.94	36,500
661	1.85	916	2.56	1,577	4.41	35,700
5,625	2.25	11,500	4.60	17,125	6.85	250,000 (*1*)
316	1.34	450	1.91	766	3.25	23,500
840	3.05	1,193	4.33	2,033	7.38	27,500
580	2.07	824	2.94	1,404	5.01	28,000
800	2.93	1,136	4.14	1,936	7.07	27,300
290	1.32	412	1.96	702	3.28	21,000
345	1.49	490	2.10	835	3.59	23,200
920	2.68	1,306	3.80	2,226	6.48	34,300
890	2.66	1,264	3.78	2,154	6.44	33,400
880	2.51	1,250	3.57	2,130	6.08	35,000
634	2.98	900	4.22	1,534	7.20	21,300
775	2.21	1,100	3.14	1,875	5.35	35,000
540	2.45	767	3.48	1,307	5.93	22,000
780	2.89	1,107	4.10	1,887	6.99	27,000
860	2.89	1,221	4.07	2,081	6.96	30,000
500	1.61	710	2.30	1,210	3.91	31,000
800	2.62	1,136	3.72	1,936	6.34	30,500
626	2.85	890	4.04	1,516	6.89	22,000
1,047	3.88	1,487	5.50	2,534	9.38	27,000
1,166	3.87	1,658	5.53	2,824	9.40	30,000
853	2.44	1,211	3.46	2,064	5.90	35,000
$26,414	2.31%	$41,033	3.60%	$ 67,447	5.91%	$1,141,100

MC (COST MARKUP) = 255.9%

(*1*) Totals of 10 jobs submitted to us.

TABLE NO. 3—RESIDENCES—OVER $100,000

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$11,210	2.83%	$ 9,640	2.44%	$ 20,850	5.27%	$ 395,000
2,469	1.76	2,575	1.84	5,044	3.60	140,000
5,018	4.39	3,586	3.13	8,604	7.52	114,295
6,345	4.12	4,442	2.89	10,787	7.01	153,801
8,251	5.10	6,817	4.22	15,068	9.32	161,582
10,957	3.81	8,253	2.86	19,210	6.67	287,912
24,350	1.99	18,605	1.52	42,955	3.51	1,222,597
$68,600	2.77%	$53,918	2.18%	$122,518	4.95%	$2,475,187

MC (COST MARKUP) = 178.7%

TABLE NO. 3—APARTMENTS

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 538	1.87%	$ 355	1.24%	$ 893	3.11%	$ 28,700
215	1.17	306	1.66	521	2.82	18,400
475	.95	505	1.01	980	1.96	50,000
1,018	.58	1,006	.58	2,024	1.16	175,000
1,800	1.16	3,240	2.09	5,040	3.25	155,000
190	.68	318	1.14	508	1.82	27,900
380	.78	810	1.66	1,190	2.44	48,760
1,115	.84	1,880	1.40	2,995	2.24	133,480
6,036	.83	9,830	1.36	15,866	2.19	723,000
700	1.77	1,085	2.74	1,785	4.51	39,600
815	2.09	1,263	3.24	2,078	5.33	39,000
750	.68	1,163	1.06	1,913	1.74	110,000
715	1.20	1,108	1.86	1,823	3.06	59,500
1,300	1.86	2,015	2.88	3,315	4.74	70,000
$16,047	.96%	$24,884	1.48%	$40,931	2.44%	$1,678,340

MC (COST MARKUP) = 255.1%

TABLE NO. 3—HOTELS

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 325	1.34%	$ 335	1.38%	$ 660	2.71%	$ 24,250
794	.29	973	.35	1,767	.64	275,000
1,251	.41	1,494	.50	2,745	.91	300,000
700	.35	817	.41	1,517	.76	200,000
5,500	2.64	1,980	.95	7,480	3.59	208,550
660	1.32	230	.46	890	1.78	50,000
1,240	.73	2,020	1.19	3,260	1.92	168,600
813	.61	1,640	1.23	2,453	1.84	133,270
569	.92	1,954	3.16	2,523	4.08	61,850
1,400	.91	1,050	.69	2,450	1.60	153,000
$13,252	.84%	$12,493	.79%	$25,745	1.63%	$1,574,520

MC (COST MARKUP) = 194.3%

TABLE NO. 3—SCHOOLS—UNDER $50,000

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 450	.90%	$ 1,200	2.40%	$ 1,650	3.30%	$ 50,000
484	1.67	872	3.01	1,356	4.68	29,000
930	1.63	330	.58	1,260	2.21	57,000
770	1.58	930	1.91	1,700	3.49	48,700
541	1.97	1,154	4.20	1,695	6.17	27,486
410	1.37	517	1.72	927	3.09	30,000
620	1.84	781	2.31	1,401	4.15	33,700
370	.74	466	.93	836	1.67	49,800
$ 4,575	1.40%	$ 6,250	1.92%	$ 10,825	3.32%	$ 325,686

MC (COST MARKUP) = 236.6%

TABLE NO. 3—SCHOOLS—$50,000.00 TO $100,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 387	.56%	$ 1,822	2.65%	$ 2,209	3.21%	$ 68,730
870	1.39	300	.48	1,170	1.87	62,600
810	.86	1,360	1.43	2,170	2.29	94,700
1,205	2.12	870	1.53	2,075	3.65	56,860
1,116	1.60	1,757	2.52	2,873	4.12	69,724
813	1.08	1,257	1.67	2,070	2.75	75,256
1,122	1.74	892	1.39	2,014	3.13	64,505
1,116	1.54	1,319	1.82	2,435	3.36	72,470
1,377	1.53	1,305	1.45	2,682	2.98	90,000
1,035	1.72	1,728	2.88	2,763	4.60	60,000
638	1.10	1,065	1.83	1,703	2.93	58,000
620	1.11	1,035	1.86	1,655	2.97	55,600
750	.77	1,253	1.27	2,003	2.04	97,900
790	.99	1,319	1.67	2,109	2.66	79,600
850	.98	1,420	1.64	2,270	2.62	86,500
$13,499	1.24%	$18,702	1.71%	$ 32,201	2.95%	$1,092,445

MC (COST MARKUP) = 238.6%

TABLE NO. 3—SCHOOLS—$100,000.00 TO $300,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 1,985	1.65%	$ 715	.59%	$ 2,700	2.24%	$ 120,200
2,280	1.33	1,960	1.14	4,240	2.47	172,000
3,370	1.98	3,100	1.82	6,470	3.80	170,000
2,218	2.10	2,113	2.00	4,331	4.10	105,637
2,855	1.79	2,220	1.39	5,075	3.18	159,586
3,032	1.98	3,063	2.00	6,095	3.98	153,170
1,070	.87	803	.66	1,873	1.53	121,850
2,140	.90	1,605	.68	3,745	1.58	236,000
2,880	2.44	2,160	1.83	5,040	4.27	118,000
2,140	.90	1,605	.68	3,745	1.58	236,700
1,400	.72	1,050	.54	2,450	1.26	193,000
3,270	1.64	2,453	1.23	5,723	2.87	200,000
930	.65	698	.49	1,628	1.14	143,950
988	.86	741	.65	1,729	1.51	114,600
1,765	.76	1,324	.57	3,089	1.33	233,900
1,360	.97	1,020	.73	2,380	1.70	140,100
2,730	1.15	2,048	.87	4,778	2.02	237,100
913	.68	684	.51	1,597	1.19	133,800
1,860	.88	1,395	.66	3,255	1.54	212,000
1,845	1.58	1,384	1.18	3,229	2.76	116,600
$41,031	1.24%	$32,141	.97%	$ 73,172	2.21%	$3,318,193

MC (COST MARKUP) = 178.3%

TABLE NO. 3—SCHOOLS—OVER $300,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$11,880	1.50%	$10,200	1.29%	$ 22,080	2.79%	$ 790,000
5,165	.74	4,017	.57	9,182	1.31	700,000
40,870	1.81	35,000	1.55	75,870	3.36	2,258,000
9,293	2.02	5,014	1.09	14,307	3.11	460,000
6,800	1.20	5,780	1.01	12,580	2.21	569,500
2,440	.69	2,074	.58	4,514	1.27	356,100
2,670	.66	2,270	.55	4,940	1.21	405,800
$79,118	1.43%	$64,355	1.16%	$143,473	2.59%	$5,539,400

MC (COST MARKUP) = 181.3%

TABLE NO. 3—CHURCHES—UNDER $50,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 419	2.10%	$ 358	1.79%	$ 777	3.89%	$ 20,000
279	1.12	321	1.28	600	2.40	25,000
541	1.97	1,154	4.20	1,695	6.17	27,486
500	1.43	485	1.38	985	2.81	35,000
300	2.00	291	1.94	591	3.94	15,000
$ 2,039	1.66%	$ 2,609	2.13%	$ 4,648	3.79%	$ 122,486

MC (COST MARKUP) = 228.0%

TABLE NO. 3—CHURCHES—$50,000.00 TO $100,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 270	.54%	$ 1,771	3.55%	$ 2,041	4.09%	$ 50,000
1,199	1.71	884	1.26	2,083	2.97	70,000
2,694	3.04	2,317	2.62	5,011	5.66	88,500
350	1.75	300	1.50	650	3.25	20,000
1,456	1.82	2,920	3.65	4,376	5.47	80,000
1,150	1.92	1,334	2.22	2,484	4.14	60,000
$ 7,119	1.93%	$ 9,526	2.59%	$ 16,645	4.52%	$ 368,500

MC (COST MARKUP) = 233.8%

TABLE NO. 3—CHURCHES—OVER $100,000.00

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 1,160	.74%	$ 7,790	4.96%	$ 8,950	5.70%	$ 157,000
3,375	2.77	3,657	3.00	7,032	5.77	121,840
3,040	1.60	5,700	3.00	8,740	4.60	190,000
12,272	4.16	17,794	6.03	30,066	10.19	295,000
$19,847	2.60%	$34,941	4.57%	$ 54,788	7.17%	$ 763,840

MC (COST MARKUP) = 276.1%

TABLE NO. 3—OFFICE BUILDINGS

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 163	.41%	$ 645	1.61%	$ 808	2.02%	$ 40,000
233	.90	213	.82	446	1.72	26,000
3,588	1.26	4,629	1.62	8,217	2.88	285,000
869	1.93	641	1.42	1,510	3.35	45,000
9,970	.97	8,570	.83	18,540	1.80	1,029,000
27,700	1.63	23,800	1.40	51,500	3.03	1,696,000
414	.73	700	1.23	1,114	1.96	56,700
33,250	2.08	18,200	1.14	51,450	3.22	1,600,000
685	1.18	513	.89	1,198	2.07	58,000
$76,872	1.59%	$57,911	1.20%	$134,783	2.79%	$4,835,700

MC (COST MARKUP) = 175.3%

TABLE NO. 3—STORE BUILDINGS

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 193	1.12%	$ 211	1.22%	$ 404	2.34%	$ 17,200
120	.80	400	2.66	520	3.46	15,000
139	.35	473	1.18	612	1.53	40,000
558	1.99	1,004	3.59	1,562	5.58	28,000
59	.48	163	1.31	222	1.79	12,430
2,750	.83	2,360	.71	5,110	1.54	332,000
250	.98	2,180	8.55	2,430	9.53	25,500
271	3.00	180	2.00	451	5.00	9,030
227	1.95	377	3.24	604	5.19	11,640
430	2.56	714	4.24	1,144	6.80	16,830
450	1.80	747	2.99	1,197	4.79	25,000
75	.81	125	1.35	200	2.16	9,300
440	2.44	730	4.05	1,170	6.49	18,000
750	2.42	1,245	4.02	1,995	6.44	31,000
4,150	1.27	6,900	2.11	11,050	3.38	327,000
135	.97	224	1.59	359	2.56	14,000
1,500	1.09	2,490	1.80	3,990	2.89	138,000
320	1.52	531	2.53	851	4.05	21,000
260	1.44	432	2.40	692	3.84	18,000
$13,077	1.18%	$21,486	1.94%	$ 34,563	3.12%	$1,108,930

MC (COST MARKUP) = 264.3%

TABLE NO. 3—BANK BUILDINGS

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 7,160	1.60%	$ 6,165	1.38%	$ 13,325	2.98%	$ 447,000
753	2.71	648	2.33	1,401	5.04	27,800
400	.16	1,144	.46	1,544	.62	250,000
2,525	2.40	1,578	1.50	4,103	3.90	105,200
1,050	2.50	1,008	2.40	2,058	4.90	42,000
1,050	1.28	1,008	1.24	2,058	2.52	81,600
$12,938	1.36%	$11,551	1.21%	$ 24,489	2.57%	$ 953,600

MC (COST MARKUP) = 189.3%

TABLE NO. 3—CLUBS

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 90	.55%	$ 355	2.20%	$ 445	2.75%	$ 16,125
2,500	1.50	2,100	1.25	4,600	2.75	167,000
15,900	1.22	13,700	1.06	29,600	2.28	1,298,000
1,000	.71	1,790	1.27	2,790	1.98	140,960
365	1.30	897	3.18	1,262	4.48	28,200
728	1.40	1,629	3.13	2,357	4.53	52,030
22,638	2.85	10,088	1.27	32,726	4.12	794,340
680	2.72	626	2.50	1,306	5.22	25,000
1,185	2.16	1,090	1.98	2,275	4.14	55,000
$45,086	1.75%	$32,275	1.25%	$ 77,361	3.00%	$2,576,655

MC (COST MARKUP) = 171.6%

TABLE NO. 3—WAREHOUSES

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 659	.35%	$ 1,278	.70%	$ 1,937	1.05%	$ 184,000
303	1.26	109	.46	412	1.72	23,900
13,400	2.29	5,325	.91	18,725	3.20	585,000
2,500	.98	2,190	.85	4,690	1.83	257,000
1,135	1.34	935	1.10	2,070	2.44	85,000
350	.92	190	.50	540	1.42	38,000
$18,347	1.56%	$10,027	.86%	$ 28,374	2.42%	$1,172,900

MC (COST MARKUP) = 154.7%

TABLE NO. 3—GYMNASIUMS

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 348	.40%	$ 1,704	1.94%	$ 2,052	2.34%	$ 88,000
563	1.07	729	1.39	1,292	2.46	52,480
700	2.12	250	.76	950	2.88	33,000
2,600	.95	4,316	1.57	6,916	2.52	275,000
3,340	1.91	5,544	3.17	8,884	5.08	175,000
1,900	2.11	3,154	3.50	5,054	5.61	90,000
$ 9,451	1.32%	$15,697	2.20%	$ 25,148	3.52%	$ 713,480

MC (COST MARKUP) = 266.1%

TABLE NO. 3—HOSPITALS

DRAFTING ROOM		OVERHEAD		TOTAL COST		PRICE
Col. No. 1.	Col. No. 2.	Col. No. 3.	Col. No. 4.	Col. No. 5.	Col. No. 6.	Col. No. 7.
$ 2,940	1.99%	$ 1,060	.72%	$ 4,000	2.71%	$ 147,700
18,500	3.22	4,500	.78	23,000	4.00	574,400
2,880	.88	4,850	1.48	7,730	2.36	327,840
$24,320	2.32%	$10,410	.99%	$ 34,730	3.31%	$1,049,940

MC (COST MARKUP) = 142.8%

THE REASON THE PLANS OF CERTAIN TYPES OF BUILDINGS COST MORE THAN OTHERS

In residence work these figures indicate that as a dwelling increases in price the cost of the drafting increases and consequently the total production cost of the plans. The reason for this is that as a residence becomes more costly, additional money becomes available for intricate and involved detail. This is repetitive only in a limited degree and consequently necessitates involved and expensive detailed drawings which have to be made in order that this work be properly executed. This increases the production cost to the architect, a fact he will do well to bear in mind in making architectural contracts for very expensive homes.

This fact is further exemplified in the design of churches. For example, the average production cost of working drawings for a church under $50,000.00 is 3.79%, for churches between $50,000.00 and $100,000.00 the average cost rises to 4.52%. The cost of producing drawings for churches over $100,000.00 rises to 7.17%. There is a certain analogy between the designs of residences, churches and theatres, because of the involved detail which is not repetitive as in the case of more commercial structures like apartments, hotels, warehouses, etc.

It becomes further apparent in studying these figures, that the costs vary widely. There is, of course, no such thing as standardizing costs for architectural services because there will always be a wide variation. The point to be made, however, is that the average costs are probably higher than most architects, or the general public, have any idea. If all of the items of overhead were included in these costs, giving proper consideration to slack times in the office, we believe that the costs herein indicated would be higher than those actually shown.

FRIENDS, BE PATIENT FOR UNFORTUNATELY WE ARE NOT INFALLIBLE!

The Cost Committee lays no claims to infallibility. There is no question but that the reader may find certain figures which he may consider inconsistent and irrelevant, but be charitable with us. We are not attempting to juggle figures to prove our point. Once again, it costs a lot more money to produce an adequate set of working drawings than the average architect or the public appreciates. That is the principal fact we are attempting to drive home—the note of warning we are trying to sound in a spirit of good fellowship and cooperation. Our purpose is to help you to be fairly paid for the service you render your clients —service you feel is adequate and necessary, thus putting your reputation on a solid and lasting foundation.

NECESSITY OF ACCUMULATING SOME DIVIDEND PAYING KNOWLEDGE

It becomes quite apparent that this scale of architectural charges for churches, theatres, and fine residences should be quite different than that for hotels, apartment houses, warehouses, schools, etc. What should this difference be? Would it not be a wise thing for the various architectural associations to determine this difference and draw finer distinctions than at present? The Architects' League of Hollywood, in its schedule of costs and professional practice hereinafter printed, has taken this difference into consideration. Now, are our conclusions correct? Should this schedule be generally adopted?

This schedule may be improved. Any suggestions which other architectural associations have to make on this subject will be most gratefully received and the Architects' League of Hollywood will consider it a favor and an act of cooperative good-fellowship.

THE POWER OF KNOWLEDGE

What is the value of all this knowledge of our overhead and production costs? It requires little imagination to conceive of its effect upon a business man. We can easily hear our clients say—"Do you know I always thought these architects were artistic, visionary chaps, but I got into an argument with my architect, Floyd Blank, about overhead, and I want to tell you fellows he certainly knows his stuff. You bet, I never would admit it to him, but he gave some pointers on the subject of overhead that I didn't know about and I'm going to use.

"I wish the fellows in our business knew as much about their production costs as those architects seem to. They know to a cat-hair how much it costs to get out their plans on everything from a dog kennel to an office building. It certainly costs a lot more money to get out a set of plans for a building than I ever had any idea of. Floyd Blank told me the plans and specifications were really more the foundation of my building than the concrete under it and I've come to realize that he hit the nail right on the head."

We can easily get our clients to talking about us this way if we will show them we know our business, know our costs—demand a fair fee and render adequate service in return. It's worth a lot of effort to get a powerfully influential client thinking and talking that way about us, now isn't it?

THE MISTAKE OF THE PRICE CUTTER WHO CUTS RATES DUE TO IGNORANCE OF HIS PRODUCTION COSTS

Let us place ourselves for a moment in the position of the architect, who, due to the ignorance of his costs, makes the plans of his buildings at cut rate figures. Leaving the artistic quality of the work out of consideration, we will assume that the plans he makes are sufficiently detailed so that an estimate can be made and a building satisfactorily erected from them.

Let us assume that the architect believes that he can make the plans and supervise the construction of residences for 6.0% and commercial buildings for 2.5%. He would then have to do considerably more than twice the amount of work than a man who gauged his price by the standard of the American Institute of Architects or of the Architects' League of Hollywood. He would have to work more than twice as hard. It would take a much greater effort to finance the volume of business, and he would have the peculiar experience that while he had done a tremendous volume of work during the year, he would have made nothing out of it for the simple reason that he would really be operating at the very best at cost, and in many cases greatly under cost.

His overhead would have to be met. If he made at all adequately detailed drawings, the percentage of his drafting room salaries to his gross collections would be tremendously high. He would be working exceedingly hard and the only ones who would get anything out of his business would be the draftsmen and his clients. This condition of affairs exists in a great number of architects' offices. A new job merely tends to finance the old one, the architect has no cost system to guide him, and he cannot understand why he does not make money out of his business.

FUNDAMENTAL CAUSES OF PRICE CUTTING

Most price cutting is due to two mental factors, one is ignorance and the other is fear. As to the first, it is not surprising that the practice of price cutting is so general for the simple reason that no accurate production cost data has ever been before compiled. This unfortunate lack is unquestionably responsible for the great extent of this unfortunate practice.

Fear enters into price cutting and it is unfortunately true this mental demon has a paralyzing and blinding effect. If a man or his family are hungry, if he has a lot of pressing obligations, fear will cause him to take a job at any price he can possibly get. Also, in the press of need, such a man is liable to say—"Oh, that's all right for those Architects, Gotrocks and Kale—they've got the money, they can stand out for such prices and I can't." It not infrequently happens that firms like Gotrocks and Kale attain their strong financial position because they have possessed a knowledge of their production costs and had the courage and business sense to ask enough to enable them to do their work properly and, in addition, to get a sufficient profit. A continuous campaign of cost production propaganda and intelligent methods of education will gradually tend to congeal and stiffen the backbone of these weaker members of our profession.

Let us consider a very common type of young practitioner, and that is the capable and experienced draftsman who decides to strike out for himself. He makes his drawings rapidly and accurately. When he starts

out in business he does not have the capital to employ draftsmen and so does his drafting himself. Now he can get a set of drawings out in a third or half the time the average draftsman can, for the reason he knows just what he wants, and when he puts his idea on paper it does not have to be repeatedly changed as it would if he were employing a draftsman to do the work for him.

The elated young architect thinks he has struck something rather soft, where the flow of easy money is going to put him in the class of possessing a real bank account. He thinks he can do his work and still cut way below the A.I.A. schedule, but disillusionment invariably awaits him! The time comes when he gets so much work he cannot do it himself, he must then have draftsmen to help him, and to his surprise he finds that he cannot operate so economically. He is in the sad position of having educated his clientèle to demand a cut rate charge from him and he finds he can no longer make money at these figures—if he tries to raise his prices he discovers it to be exceedingly difficult to get business from his old clients or their friends, so he virtually has to start out all over again and establish a new set of customers.

We know a young architect of this type—brilliant designer—who started by doing residence plans for 2.0% and 3.0%. After he opened an office he was only able to stay in business for about a year. He then went broke and had to go back and again work as a draftsman. How many times this sad and discouraging thing happens!

Now we come to another type of price cutter, one who fortunately is very few and far between in the architectural fraternity, but one who does an incalculable amount of damage, and that is the

MALICIOUS PRICE CUTTER

He is able to reduce his price for architectural service because he has stooped to the practice of accepting hidden commissions from material houses, subcontractors, etc. This, of course, is plain ordinary graft. In a certain large city a condition of this sort is quite flagrant. A firm which is doing an enormous amount of commercial work is charging 1½, 2, and 2½ percent for complete architectural service, including supervision, and consistently makes a practice of accepting hidden commissions. The building public, not knowing of these hidden commissions, accepts the standard set by this malicious price-cutting firm. Naturally, no architect operating legitimately can compete with it, and he is then regarded as a profiteer.

It is almost useless to argue with a client in competing against this firm. If the legitimate architect asks for the price as set by the American Institute of Architects, the client simply laughs at him and comes back with this criticism: "Why, here's Sokem & Steele, one of the most prosperous firms of architects in the community and doing the biggest volume of business and they only ask half what you do. Your price is ridiculous and I won't pay it." Now, the legitimate architect might argue until he became black in the face, but if he had only his own books to prove his costs, he would be helpless.

FIGHTING THE DEVIL WITH THE ICE OF FACTS

The only way in which this type of competition can be fought is to use Table No. 3, giving production costs on various types of buildings, and show them to your client. If in the foregoing example the legitimate architect had had such figures and had proved, for instance, that the average actual cost of making drawings alone, without profit or supervision, for commercial structures was 2.79%, then it would place the malicious cost-cutting firm in a very sorry position to explain how it could afford to do the entire work for 2%.

When we come to analyze the problem coldbloodedly, this is the only way in which effectual warfare can be waged against this fortunately rare type of architect who does the honest and legitimate practitioner an untold amount of damage.

There is a natural, healthy desire in the average man for a good, honest fight in a worthy cause. Such a combat quickens the pulse, causes the blood to tingle. In declaring war on the malicious price cutter, we are not only serving our profession, advancing its standards of reputability in the eyes of the public, but we are actually fighting for our very business existence. We are fighting a warfare for the protection of our firesides, the welfare of those dear to us. The malicious price cutter is an assassin. He works in the dark. He stabs in the back! In every sense of the word he is an unworthy enemy and an unfair competitor.

There came to our attention a case where an architect was caught in the act of receiving secret commissions or graft. His clients indignantly faced him with the evidence, and what do you think this architect's justification was? He showed the true aura of his soul, which was a muddy yellow, when he declared, "Why, all architects do it! It's a general practice and there is no reason why I shouldn't do it as well!"

To make war on this type of conscienceless and unfair competitor without maudlin sentiment or mercy is certainly a righteous and worthy act. In the last analysis even these unworthy ones are benefited as well as everyone else connected with the construction industry, for the necessity of his being a grafter will have disappeared when a fair fee for an adequate service becomes a recognized practice.

HOW GENERAL IS THE PRACTICE OF ACCEPTING HIDDEN COMMISSIONS?

The president of the Architects' League of Hollywood was on three separate occasions approached by material houses or contractors stating that he individually, or the League in general would be given a commission if they would specify, or throw a certain

portion of the work on their buildings to the interested parties. It was amusing to see the surprise these salesmen expressed when this particular official became indignant at this proposition. In practically every instance, they said, "Why, that's quite a general and common practice. Everybody does it!" This, of course, was a highly exaggerated statement. The trouble probably was due to the fact that these unenlightened gentlemen shared the general ignorance of the public as to the difference between the architect and the builder. This was not an unnatural mistake as most of the buildings in this particular community were not designed by architects, but by contractors or builders who furnished so-called free plans. These salesmen had the two confused. Of course, the builder operating under a fixed contract is ethically in a position to accept all the trade courtesies, discounts, etc., that he can get, while the architect is not. Unfortunately, this practice has spread to a few architects' offices.

IS PRICE CUTTING A QUESTION OF ETHICS OR OF ECONOMICS?

Price cutting in the past has been generally regarded more as a question of ethics than one of economics. We recall, as young architects, hearing the expression "it is unethical to cut prices." Now, that expression means nothing to the young architect starting out in the practice of his profession. He is very liable to feel resentful, and to regard these so-called ethics as a luxury in which we can ill-afford to indulge. The older and more experienced architects can, in a spirit of friendly cooperation and fellowship, convince the younger men that after all proper cost determination is a vital matter involving the very success or failure of his business and the welfare of his family as well. When the problem is viewed from this strictly economic or utilitarian point of view, it becomes quite a different matter. The young architect is touched in two very sensitive points, his pride of accomplishment and his pocketbook. When a man is affected in these vulnerable parts, he usually is open to reason and conviction.

There is no more pathetic sight than the well-meaning business man or architect who, not knowing his production costs, goes blunderingly, blindly on. In the wake of this unhappy and unfortunate individual we find a sorry train of misery and suffering. Not only does his family feel the pinch of privation and lack, but a hardship is experienced by his creditors and the tradesmen who trusted him and assumed that he would play the game honestly and fairly, and meet his obligations promptly.

On the other hand, what greater sense of satisfaction can a man have than the feeling of self-respect and well being which comes from meeting his obligations promptly—discounting his bills? We can easily hear his fellows say, "There's a man for you! When he contracts an obligation, he delivers! There is an architect who in addition to being an artist is a mighty fine business man as well!" We all know that such a man justly inspires confidence and ultimately gets a preferential and a highly profitable type of business.

WHAT CAN WE DO ABOUT IT?

What is the remedy? And here opens an opportunity for the American Institute of Architects and other architectural societies to do a really great and beneficial thing for the architects of the United States as well as those of other countries. Can there be any greater or more worth while activity than for these associations to help in putting the profession of architecture on a paying basis? To help its practitioners make a fair living and profit from their efforts? If there be any other thing more important than this we do not know what it can be.

Much to the credit of the A.I.A., it is already, we are informed, starting to devise a uniform system of cost accounting for architects. Truly it is showing itself alert to the advancing needs of our profession. We suggest the A.I.A. as being the logical group to do this because it is the most powerful, influential, and best organized. If results are to be gained the efforts must be uniform, systematic, and universal rather than sporadic. The A.I.A. has done a great work in evolving an effective system of business forms for the use of architects; it can do an even greater work by evolving a uniform system of cost accounting and cost finding.

In this publication the Architects' League of Hollywood feels that it has merely scratched the surface—any way in which it can help further in this great work it will be happy to do. Any experiences or data it may have collected, it will be glad to share, although most of it is herein embodied. The furtherance of this work is a task so huge that it is beyond the power or scope of a small local architectural organization. It is a work which should be approached and done nationally in a big way.

Cost investigations should be continued. A vast amount of data showing the production costs of architectural service for every type of building should be accumulated. The sum total of this evidence would be invaluable and could be used in various ways as indicated at the beginning of this article.

Results can only be accomplished by starting NOW and with forcefulness of purpose and enthusiasm. This effort will have to be carried on over a period of years with a patient, unflagging enthusiastic effort. But each year this work will pay generous financial dividends and add prestige to the profession as a whole, as well as to the individual architect.

What is the best method of commencing this great work? Let each local chapter of the A.I.A. delegate some of its members to start a regular course of lectures, to be given once or twice a year, to which all of the younger architects and draftsmen in that com-

munity are invited. Here, teach a simple course of cost accounting and cost finding. Show them in a simple, friendly way the business pitfalls ahead and how to avoid them. Get these younger men interested and convinced of the benefit of attending these lectures. This will be rendering a service which will increase the membership of the A.I.A. It will make the coming crop of architects feel it is a live and vital organization outside of whose membership they can not afford to be. If this were done, the standard of architectural practice would be raised and the uneconomic and unfortunate practice of price cutting would be gradually eliminated. Considerable bromidic publicity has been given to the fact that Rome was not built in a day. So let us take off our coats, put our shoulders to the wheel and be prepared for a big push, a long push, but a glorious one!

CALLING AN ALUMNI MEETING OF THE UNIVERSITY OF HARD KNOCKS

It would be visionary in the extreme to assume that this work will be either an immediate or a universal panacea. It can never be as long as the human mind is subject to the forces at present at work upon it.

In spite of all evidence and argument we can present, there will be price cutting. When the demon fear seizes upon the mind of man, there is no limit to the folly he will commit. Under economic stress, he will throw facts, reason, logic to the winds in order to get a little money to feed his family. But, when this phase of extreme stress passes he will again be open to reason. The tuition in the University of Hard Knocks is exceedingly high, but the course is mercilessly effective. There is a type of mind chronically puffed and inflamed with egotism which can learn only when its possessor is hit over the head with the pick handle of experience. Only some mighty shock can penetrate the cerebellum so heavily armoured with bone and vibrate down through the osseous matter to that pulp which commonly passes for a brain.

The third and concluding installment of this valuable report of the Architects' League of Hollywood will appear in the July issue of PENCIL POINTS. *It will contain further conclusions reached by the League as a result of its investigation and analysis of the returns to its questionnaire. Every architect and draftsman should read the whole report with care, for it is probably the most important document ever produced dealing with the business side of architecture.*



DECORATIVE PANEL BY ROBERTO TERRACINI, SCULPTOR
MADE FOR POGATSCHNIG AND MONTALCINI, ARCHITECTS
Reproduced from "L'Architettura Italiana"

MOTORCYCLING THROUGH EUROPE

DESCRIBING A METHOD OF TRAVEL WHICH MAY SOLVE THE PROBLEM OF AN ARCHITECTURAL TOUR

By Ides van der Gracht

AMONG THE PROBLEMS which present themselves during the consideration of an architectural tour abroad, especially if it be the first, one of the principal ones is the question of how to reach as easily and economically as possible the widely scattered and not always too accessible monuments we wish to include. Railroad and automobile, bicycle and walking tour—all have their protagonists, and there is much to be said for each under particular circumstances or for certain regions. To decide among them for a more extensive trip, or to settle on some mode of transportation that combines in some degree the advantages of all of these, is often a puzzling question.

There is little doubt but that travel by rail has definite advantages for a quick trip which is to cover much ground, and which restricts itself to the more accessible monuments along the main lines of travel. A decisive consideration in its favor is the fact that it requires no considerable initial investment, as is the case with motoring, whether the car be brought over and back, or bought on the other side and resold at the end of the trip. Combined with short local walking or cycling excursions, travel by rail is probably the most economical way of including many separated points in a comparatively brief tour.

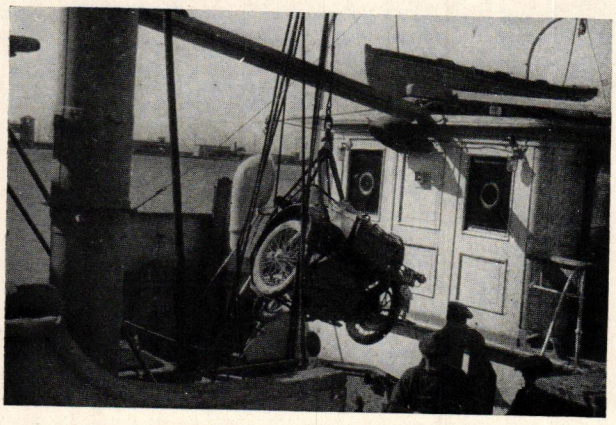
On the other hand, there are certain definite drawbacks to this. Of these a major one is the inelasticity of schedules, which frequently compels one to forego just those impressions which might stand out as the highlights of the trip: matters of light and mood and time of day whose effect should not be underrated. Another is the necessity for supplementary transportation in the way of cabs and busses to reach outlying points, which thus are often neglected. The bother of getting baggage to and from hotels, the importunities of guides, porters and others who swarm about the tourist lanes, the hordes of tired and querulous compatriots—none of these are conducive to the full absorption of the flavor of a country, and this atmosphere colors, and in a way is quite as important as, the monuments themselves.



THE AUTHOR AS HE APPEARED EN ROUTE

To motoring there are, of course, also disadvantages. It requires, first of all, a comparatively high initial investment. Unless you are quite lucky, and aside from all the trouble involved, the loss on resale of a car bought abroad is apt to result in a disproportionately high depreciation, especially on a short trip. If you have a car of your own, transportation over and back varies between $300 and $550. American cars, being, as a rule, much more powerful than European ones of similar size, are a good deal more expensive to run, although this additional power, particularly in the mountains and on bad roads, is often much to be desired. Running costs, including garaging and minor repairs, may roughly be said to amount to about three times first class railway fare; with a larger party this is obviously reduced proportionately. You must, of course, take your chances on road and weather conditions, and on a tour which is to include widely separated points a motor will take more time. The difficulties at frontiers are generally exaggerated, but, especially in out of the way districts, some knowledge of the local language is often highly desirable.

Against this stand the infinitely greater enjoyments made possible by motoring. You are your own master: you go and leave where and when the mood strikes you. You get the "feel" of a country as you can't possibly by train; the charm of the incidental, all those small things that give atmosphere and leave you with a vivid impression. Even the vagaries of the weather are part of this: the sharp showers and bursts of sunlight on the Scottish moors are no more to be missed than the long trailing veils of rain and the mists of Brittany, or the hot ivory dust of southern France. You approach towns as a rule from a much more favorable angle than by train, as and when you want; you are spared the rush and trouble incident to travel by rail: the whole is a smoothly moving panorama, an unbroken impression. If the view demands it, even though it be a little early for lunch, you can stop and drink it in, and get out the provisions anyway; if the light isn't just right for a photo, you can



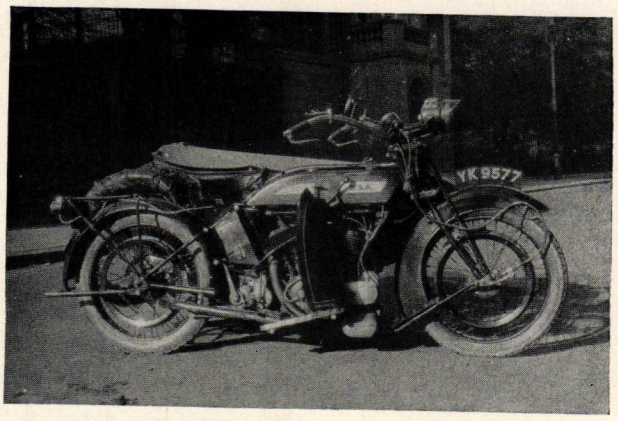
A motorcycle may be easily handled aboard ship

wander about and wait for it, and it is never too late for a few scrawls in your sketchbook.

Convinced that it was the only way really to see Europe, but faced with the apparently insurmountable obstacle of cost (since bicycling or walking were out of the question in view of the ground I wanted to cover), a brilliant idea broke upon me: why not a motorcycle? I foresee the visions that this will call up: gentlemen of color in clouds of exhaust, their lady friends clinging about their necks; knights of the garage shattering the silence enjoined upon the Sabbath, and uniformed Nemeses whenever a clear stretch of road is particularly tempting.

This picture may be substantially correct over here, but it applies in no sort of way to Europe. There everyone who, living in the States, would be equal to at least a medium-sized car, is by force of circumstance a confirmed motorcyclist. They are incredibly prolific, and come in every shape, size and style from what virtually amounts to an "outboard" bicycle to side car "combinations" that are only one wheel short of being commodious automobiles. The high costs of cars, the heavy taxation, and the dearness of gasoline and oil, together with less general prosperity, have brought this about. Bearing in mind the oft-stressed adage about "fitness of materials," I settled on a motorcycle as the obvious solution of my problem, quite aside from the sporting element thus introduced to the prosaic business of transporting one's self from one place to another.

There are any number of excellent makes to choose from, especially in England; the type and size depend, of course, on the sort of trip you have in mind. Spare parts for the better makes are almost everywhere available, and the running cost is surprisingly low. They are not at all noisy, cut-outs being against the law except in open country: in fact, my machine did not possess one. With sturdiness and exceptional freedom from trouble, they combine all the advantages of flexibility and manoeuvrability of a bicycle: no bypath is too narrow for them, no trail too steep, and many a shed proffered its hospitality to "Elijah," whose penchant for going up on high was one of his most valued characteristics, at which a car might well have turned up its nose. They are easy to transport: on the passage from Fiume to Zara, on the Dalmatian coast, it was swung neatly over the side of the small coastwise steamer by means of one of the freight hoists, trussed like a fowl, while I held my heart for the side car frame which had surely never been designed for that particular strain; but it came through without a murmur. Furthermore, I found that travelling modestly in this way saved me many a franc or lira where more elaborate travellers were fair game: on the discovery that I was a student, one all day repair job in Brittany, involving the removal of both cylinders, was charged at 25 francs! And one



The author's steed, "Elijah," in side elevation

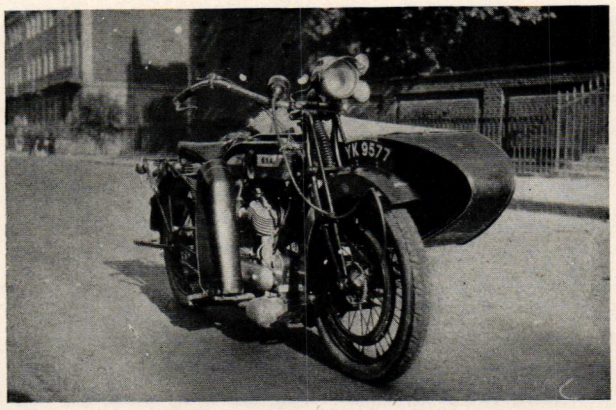
frontier official relented on his interpretation of the tax schedule when I pointed out to him that I obviously was not one of that ostentatious tribe of rich tourists, and had but sunk my all in a motorcycle the better to observe the treasures of his "Belle France."

The first thing to do is to join the British Automobile Association, or some equivalent organization. As an ex-member, I have a particular weakness for the A.A., and the service rendered for the modest dues of £1-1-0 as a motorcycle member are as close to getting something for nothing as one is ever apt to. This entirely free service includes: legal defense in case of accident, and advice on all matters pertinent to ownership of a motorcycle; engineering advice about the purchase, maintenance, and repair of motorcycles (especially valuable in the case of second-hand purchases); advice and assistance by the Touring Department, both local and foreign, about road conditions, frontier regulations, points of interest, agents and repairers, inspected hotels in practically every town in England and many on the Continent; the use of roadside telephone boxes to which members are given keys, for summoning help in emergencies; access to roadside fuel stations; service and assistance from A.A. patrols which constantly cover all the 20,000 miles of main road in Great Britain and the Continental ports of entry (to help you through the customs), and who make almost any sort of roadside repairs. Whether

you confine yourself to England, or drift all over the Continent, their advice and cheerful assistance are equally invaluable.

As suggested above, most trips can be classified under two general headings, which require correspondingly different outfits: short and local ones, restricted, say, to England, and possibly Holland, Belgium, Normandy, and Brittany; and longer tours covering the better part of the Continent.

For the former, especially if you are travelling alone, a side car, though convenient, is not necessary. They are more in the nature of bicycling trips, but with increased cruising range. While a side car requires no balancing, as well as allowing more room for duffle, a solo machine is very easy to handle, once the trick is caught, with an inherent balance due to its low centre of gravity. It is quick and responsive, and, unless the roads are quite bad, not at all tiring. This does not apply, of course, to a really extensive tour. A 3½ to 5 H.P. single cylinder machine is more than ample, and will even take a light side car, although in that case I prefer to be a bit more generous with power. On a solo machine baggage should obviously be reduced to a minimum: a pair of saddle bags and a small valise or knapsack on the carrier should accommodate one's outfit; too much weight there is apt to unbalance the machine, especially on wet roads.



In perspective the side car becomes visible

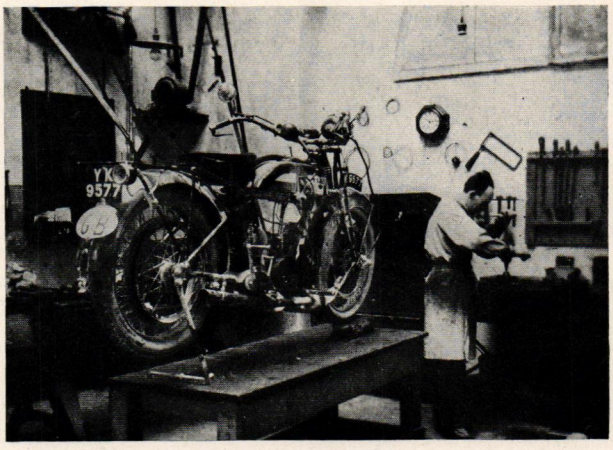
In addition to the usual linen and toilet articles, one complete change of clothes is very desirable in case of a drenching. This might be one's more presentable suit; on the road I found a light sweater and leather wind jacket with big pockets very comfortable, together with a light raincoat rolled up into a small bundle. Another combination is a tweed jacket, a light sweater, and a sort of combination suit of waterproof coat and trousers which keeps out the wind and is proof against almost any sort of not too insistent rain. Personally I preferred riding breeches and puttees to knickers on dusty roads, but for the sort of trip where almost all the roads are hard surfaced, this is not really necessary.

On the matter of spares I shall touch later: a complete kit is ever the best insurance. *À propos* of which, it is well to carry insurance both of the personal and liability kinds; either the dealer or the A.A. can arrange this at reasonable rates.

For more extensive tours, lasting quite some time, there are certain real disadvantages, compared to a small car. Where the roads are less good, a motorcycle needs more concentrated attention; especially with a side car it can not be driven as quickly or with anywhere near the same comfort, and it is apt to be more tiring until one gets accustomed to it. There is scant protection in bad weather, in any event for the driver, and it is not as companionable. On the basis of comfort, the cost is comparatively high; this, however, is more than balanced by lower running costs and very much greater proportional power and flexibility. This is no mean advantage, especially in mountainous country, as anyone who has panted for miles at a time in low in a 6 H.P. Citroën will admit. It is, in short, the machine for the rather adventurous freelance, who would subordinate comfort to sport and informality, and who must keep the element of economy strictly in mind.

For a long trip, with many varying conditions of road and weather to provide against, a large, powerful machine with side car, known as a "combination," is essential. To save on the initial outlay here only lays up an endless store of difficulties. Furthermore, the machine should be of a well known standard make, so that spares are easily obtainable in many places. From the experience gained during an eighteen months' trip, covering over 10,000 miles, I found that many apparent luxuries become absolute necessities on a long tour.

First and foremost is a good saddle: generous, comfortable, flexible, and well sprung. On this item the greatest extravagance is but economy. A good speedometer is also invaluable, and I found that a cheap but sturdy watch on the handle bars was very companionable when, in bad weather, you were thoroughly bundled up. A rear-view mirror constantly proves its worth, and the equivalent of a small dash lamp



"Elijah" in the repair shop—an infrequent occurrence

will often be blessed when you want to look at your map without stopping. An efficient horn will be taxed to the utmost by many a high, two wheeled wine cart, and the conspicuously displayed A.A. insignia will often, through the failure of A.A. patrols to salute it, call your attention to an about-to-be-lost knapsack or a speed trap in the offing.

In the matter of lights, I found a good carbide lamp very dependable, but not as strong as an electric outfit. These are quite a bit more expensive, and they may always get out of order at a critical moment. The fact that one might forget one's carbide is hardly a reflection on the former, although I was in no mood to appreciate this after a six hour ascent of the Grimsell in pitch blackness, at a pace just above stalling, and an anything but genial reception at the hospice, where, notified as they are of everyone crossing the pass, they had just decided to go out and look for me in spite of its being 2 A. M.

During the winter and in heavy rains, leg shields proved very comfortable, but in the summer, by interfering with the air cooling of the motor, they are very hot. They also interfere with stretching one's legs: often a most grateful respite! I doubt if they justify themselves. On the other hand, little removable cup-like protectors for the hands are a great boon: ten hours of sleet, such as one is liable to meet on crossing from Bologna to Florence in January, will go through the heaviest gloves. There are de luxe models with a number of additional refinements, but I do not think the additional cost is warranted.

My tool kit included some spare valves and springs; piston rings, an assortment of nuts and bolts (be sure to tighten everything up every little while for the first few hundred miles), cotter pins, tire valves (I had quite a little trouble with these, owing to dust getting in them, I suppose), spare tubes (Continental makes often have different valves), and the usual assortment of tools, including a small oil can and grease gun. A first class tire kit is, of course, a *sine qua non;* I am completely sold on a make called "U-need-it." Especially on the passes and in Italy and the Balkans, I found that the universally worn hobnails, deposited at regular intervals in the road, caused such days as were not distinguished by at least three punctures to be called blessed. On this same Appenine pass a spare casing, if it did not actually save my life following a blow-out on its very crest at the height of the storm, certainly saved the machine from very severe damage at the hands of some 35 Kilometers of bad mountain road to the nearest town.

The side cars of the larger machines are very roomy and comfortable. They are well sprung and balanced, have good lines, and hold an unconscionable amount of stuff. A little rumble seat in the back (for the baby—literally!) holds all the messier accoutrements: spare oil and gasoline, grease and carbide, inner tubes, raincoat, etc.; this has a small deck provided with straps for fastening a small bag with those things in constant use overnight and between "unpacking centers." The nose of the car contained a knapsack with such things as heavy shoes, winter overcoat, etc.; while a large leather "storage suitcase," such as might be picked up in Tottenham Court Road for 30 shillings, containing dress clothes, flannels, etc., just fitted into the bottom. These only came out during protracted stop-overs. On top of the latter a smaller suitcase with more generally used things, such as additional linen and suits, would be taken out maybe once every two or three days. The whole, protected by a canvas cover and the flattened down windshield from snow, rain, or dust, contained a complete outfit for an almost indefinite time, compactly arranged so that things were accessible according to the frequency with which they were used. The bags were chosen with care to fit snugly, so that there was no shifting, and the load was well balanced; enough leeway was left on the near side for a vacuum bottle, some lunch, camera, guidebooks, and map case.

This fairly heavy load required rather careful driving on bad roads, as the strain on the side car frame was considerable; on the other hand it gave the machine great steadiness, and so well was it balanced and powered that it handled with the pleasant solidity almost of a large car.

The matter of clothes should be an amplification of the outfit suggested above. An excellent waterproof outfit is made, consisting of a roomy coat buttoning up well about the neck, and trousers without seat, preventing irritation through shifting on the saddle, and which fasten snugly about the shoes. Some such outfit is absolutely essential on a prolonged tour, and, being largely windproof, is very warm in the mountains and in winter. A leather helmet with a flap to keep the dust from sifting down the neck and a visor against the sun which, when setting, is invariably dead ahead, was found very useful. Leather gauntlets, coming back well over the wrist, and slightly tinted Triplex goggles which should be so ventilated, if possible, as not to allow the dust to sift in, complete an outfit to withstand any weather. As I said, I preferred riding breeches as being more dustproof, and habitually wore a sweater, leather jacket, muffler, and heavy crepe-rubber-soled shoed. By the time my waterproof was strapped on over all this, I looked like a rubber ball, but not even ten hours of sleet were more than moderately uncomfortable.

For a prolonged international trip quite a *dossier* must be carried, but the various touring clubs—I strongly recommend the British Automobile Association if you start from England—will attend to all that. You are given a large G.B. plate and clips certifying the motor and body numbers of your machine, with appropriate papers. For my International Driver's License I had to drive once around Leicester Square. A *Carnet de Passage* is vastly to be recommended over individual *Triptyques*. You make one deposit, equivalent to the import duty of the

highest country you visit (generally France), which you get back on your return to the country of origin. All you do is sign in at the frontier of each country as you enter, and out as you leave: utterly simple. Some countries, like Germany and Austria, require separate *Triptyques*, which may be changed by now: there you made separate deposits on entering, which were returned on your exit. Most countries have a by-the-day tax, and in Switzerland there is a fee for many of the passes; they also require you to buy a map with time tables of the Government bus lines, which is very comforting information, in as much as they are fast, very large, and have the inside of the road under all circumstances. And then, of course, your passport.

Individual *Triptyques* are granted in France and Italy on the payment of a certain fixed amount, instead of by depositing the whole duty, which works, in effect, like insurance for your exit. It is not as cheap, but saves the tying up of a considerable sum for the duration of your trip. At most frontiers the officials are very efficient, and give a minimum of trouble, especially if one travels light. In several dozen crossings, my baggage was only touched a few times. *"Rien à déclarer? Ah, étudiant! Eh bien, allez, et bon voyage!"* In Jugo-Slavia, where the Slav lettering was utterly incomprehensible, and where, coming from Austria, I was watched with some care, a close inspection of my documents passed me on my way without the exchange of a single word! Only the Italians were very precise, turning everything inside out. Once, near Lugano, it was only after the greatest trouble, and while a Swiss guard stood carefully on his side of the line, stolidly refusing to translate my French and German explanations—I didn't learn pidgin Italian until much later—that three pearl dress studs were allowed to pass. And that only after the most consummate pantomime and a practical demonstration which thoroughly begrimed one perfectly good dress shirt.

In the way of maps a few large *Cartes Taride* at a scale of around 1:1,000,000 served to outline the trip. For more detailed information the A.A. puts up a very handy map of England bound up sectionally into a booklet, at a scale of 1:760,320 or twelve miles to the inch, which I found quite sufficient. If you wish, they will make you up a personal itinerary, a regular "Blue Book" for the route you wish to follow, indicating all road conditions, points of interest, inspected Inns, etc. Many of the cycling clubs also have lists of recommended Inns in all price scales; I always found them very good and eager to do anything they could to make you comfortable.

The *Cartes Michelins* in France are excellent, and kept up to date. Their scale, 1:200,000, shows practically everything worth noting. A correlated handbook gives the entrances and plans of all towns, but this is hardly necessary. Good guide books, such as Baedeker and Muirhead, give sufficient information on this score, and are, of course, essential anyway. The *Touring Club Italiano*, a most progressive organization, puts out an excellent map of Italy in small sheets at a scale of 1:250,000; while Freytag & Berndt's Automobile road maps, at a scale of 1:300,000, cover all of Central Europe, Russia, and the Balkans, with a system of indication similar to that of the *Cartes Michelin*. Some sort of carrying case with celluloid windows front and back is indispensable for consulting maps en route. The *Automobile Club de France* puts out a handbook of garages, hotels, inns, doctors, main points of interest, shops where members get reductions, etc.; and in Italy the ENIT has most excellent pamphlets, kept constantly up to date, showing hotels and their accommodations and prices in practically every hamlet. With this information one can hardly go wrong; I found people most willing to give assistance, as a rule, and in eighteen months, on every conceivable kind of bypath, I lost my way exactly twice, and that at night!

The following figures give the cost of the trip fairly accurately. It was taken during the time of maximum fluctuation of the franc, but on the whole I think the picture is about correct. The machine, of 10 H.P. with side car, and including insurance, cost $511.52. The major part of the accessories mentioned above (some were added during the trip) and spare parts came to $53.99. Automobile Association dues and returnable frontier deposits amounted to $143.64, a total of $709.15. Of this the machine brought on resale (but only after a year's wait) and having covered about 10,000 miles, $311.55, (a net loss of 43%) and the returnable deposits amounting to $122.60, the actual net cost of the plant was only $275.00

Gasoline	.91	cents
Oil	.18	"
Storage	.48	"
Miscellaneous	1.00	"
Total	2.57	cents
Depreciation	2.75	"
Grand Total	5.32	cents

The running cost per mile is given in the accompanying table, but the figures for oil, storage and miscellaneous are very generous. The machine, with an eye to resale, was kept in unusually good condition, and the oil, although very expensive, was changed oftener than may have been necessary for the very hard work over unusually bad roads in some parts of Austria, Jugo-Slavia and Dalmatia. The storage item includes several long lay-ups, often of several months' duration; and the miscellaneous item, aside from all tolls, washing, ferries, taxes, and replacements, includes three complete overhaulings, trans-

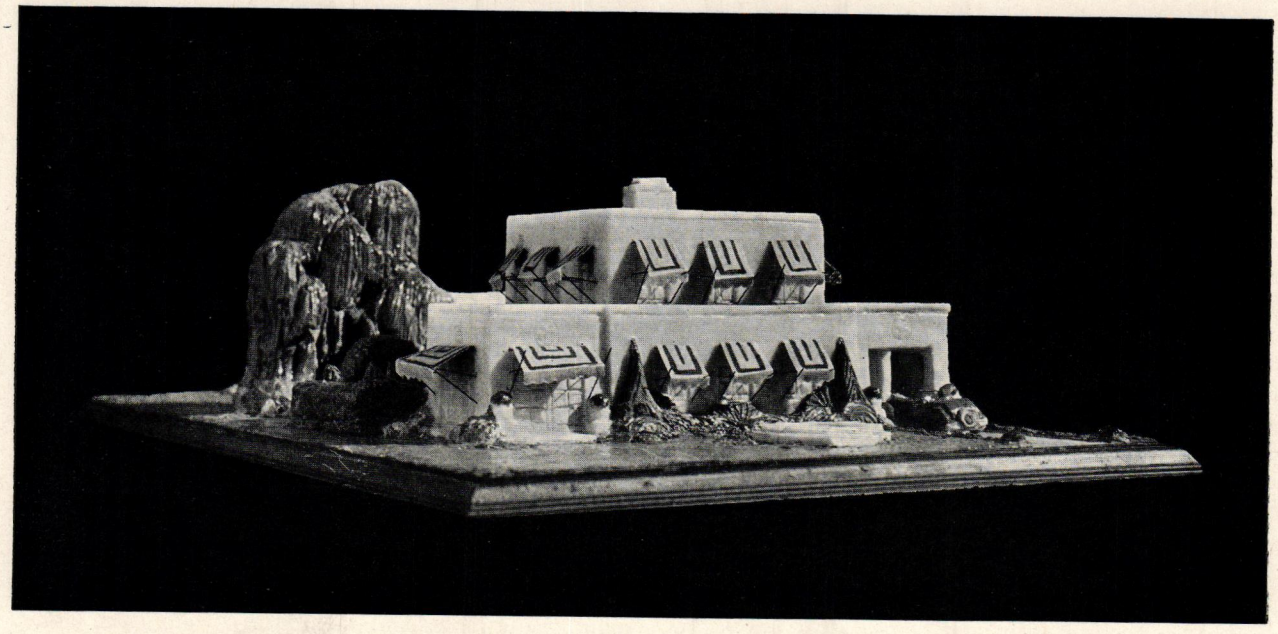
portation down the Adriatic, and two Channel crossings. For a less energetic trip, therefore, a running cost of 1½ to 2c. per mile at the outside, would be an ample estimate. The inclusive cost probably averages somewhere around one-third of what a car would come to, and it equally probably was less comfortable. But there was a sense of exhilaration about it, a feeling of exploration and freedom, of being totally independent and capable of going anywhere, which must be experienced to be appreciated, which may seem more pleasant in retrospect than it did occasionally at the time, but which I would not have exchanged for travel de luxe in its most gilded—and unsatisfying—forms.

For it is studded with little flashes of color: night in the valley of the Po, cool and starlit after the hot, dusty day; a sudden turn in the road reveals a little wine shop, glaring white in the light of a strong electric arc, hidden in the black silhouette of an immense tree. Two figures, dancing in the dust of the road, to the strumming of a guitar by one on a bench near the open door: a study in black and white, gone in a flash, yet most vividly remembered.

Night again. Mist hangs over the reeds flanking the causeway to Sermione on the lake of Garda. A sudden fantastic silhouette of turrets and pinnacles, walls and crenelations; the muffled thunder of the drawbridge, the blackness of the gates; then the piazza, brighter under the hidden moon, with the faint echoes of a string quartette and the red eye of the pier-head winking across the water.

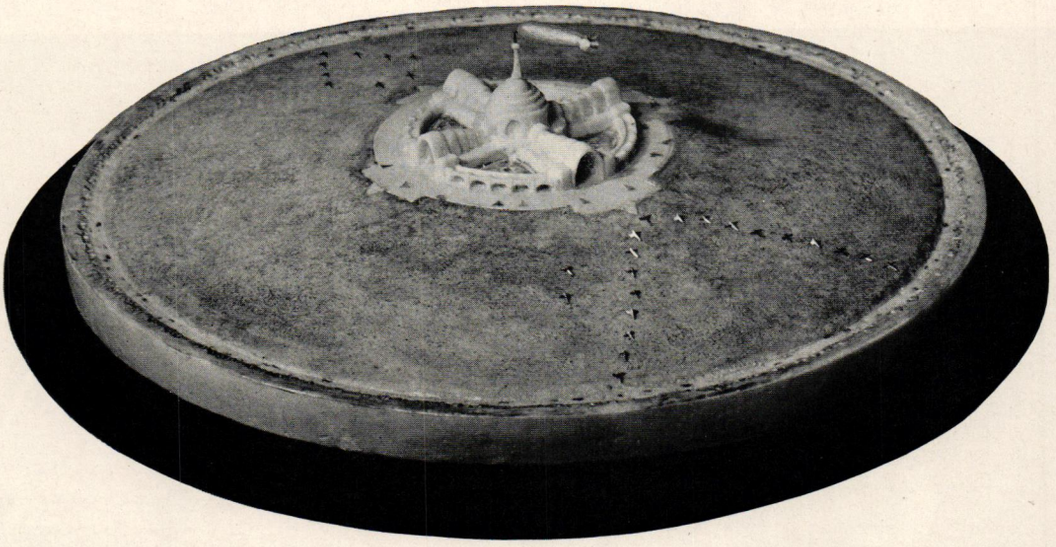
And these could be multiplied a hundred fold. They are the little, simple, unexpected things: and it is this matter of simplicity that should be the guiding factor in such a trip—to take things as they come. I found consistently, even when the language was wholly incomprehensible, that the attitude which showed that one felt and appreciated that people did their best for one, was rarely disillusioned. Only rarely were things downright bad: in even the most inaccessible places simple but clean food and lodging were to be had, and as long as one didn't demand things beyond the local scale or custom, hospitality was almost always extended to the limit of available accommodations. And, although I should not advocate tempting Providence, in all those eighteen months, where I was often obliged to leave "Elijah" to his fate for a day at a time, the only thing I lost was an old coat in a land where it was least to be expected.

A word as to the itinerary: whatever it is, try to follow the seasons and the weather. I started in England in the early summer, drifting south through France with the ripening harvests for an Indian Summer in northern Italy in time for the fall hunts and winter sports in Austria. South along the Dalmatian coast around the new year for the almond blossoms in Sicily, and then following the season north until fall found me back in England once more. And another thing: lay out your tour as much as possible in a continuous swing, zigzagging if necessary, but avoiding doubling on your tracks. In this way you will not only include a maximum of territory, but the scene will shift gradually, impressions will merge one into another, and the whole will be remembered not as a confusing number of isolated experiences, but as a complete picture, a full woven tapestry of the culture and art and ways of life of the people of an ancient and colorful continent.



VIEW OF SOAP MODEL BY MARGARET POSTGATE OF FRANCIS KEALLY'S "AIRPLANE" BUNGALOW

(See text opposite)



SOAP MODEL BY MARGARET POSTGATE OF THE "BEEHIVE" AIRPORT
DESIGNED BY FRANCIS KEALLY AND E. P. GOODRICH

ARCHITECTURAL MODELS FROM IVORY SOAP

By Margaret J. Postgate

A MEDIUM FOR MODELS and experimental sketches that is easily cut, agreeable to handle, and fairly permanent has long been sought by those who design in three dimensions. In response to this need, Ivory soap has recently come to the fore and is now being largely used for models of all kinds.

Ivory soap is not only more enduring and pleasanter to handle than a more plastic medium but is of a fine enough texture to permit the facile cutting of intricate detail. It also takes color very successfully. It will stand much more and rougher handling than wax or any more plastic material. About its only fault is that it shrinks a bit—not enough, however, when proper precautions are taken, to constitute any great disadvantage. One of the precautions is to use soap that has been on hand a week or so—the other is to cut the model to within a half inch of the desired size and lay it aside for a day or so, in order that it may do its warping before the final detail is attempted.

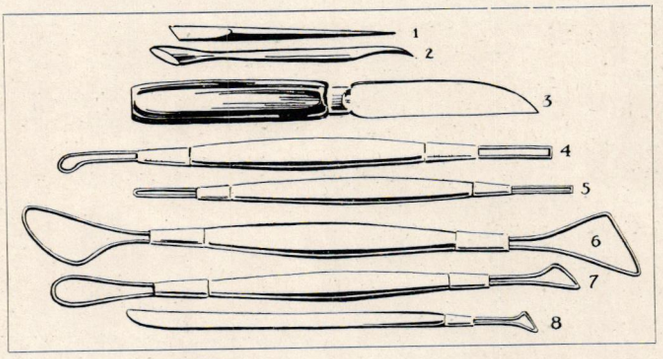


FIGURE 1—TOOLS USED IN MODELING SOAP

Numberless and of great variety are the models we have made of soap; models of sculpture, single pieces and groups; models of toys, perfume bottles, and pottery; models of stage settings; models of gardens and architectural models such as are shown herewith.

The most successful of the last mentioned group are two models from the designs of Francis Keally. Both of these models were shown at the Architectural and Allied Arts Exposition at the Grand Central Palace in New York and can be seen during June at the Anderson Galleries (National Small Sculpture Exhibition) also in New York. One of these models —that of the "Beehive" airport—was made to the scale of five hundred feet to an inch. The other, of the "Airplane" bungalow, was made to a much larger scale which permitted more detail. Just how it was done is described below.

The tools used were a knife with a medium-length straight cutting-edge and several of the wire tools shown in Figure 1. Tools 5, 6, and 8 are the most useful, though the orange sticks (1 and 2) can be pressed into service if none of the wire tools are available. In fact, the orange sticks are much more useful than the wire tools unless the latter are well made and perfectly firm. Tools such as those shown may be obtained from dealers in sculptors' supplies.

The first step in making the bungalow model, after the scale was determined, was to draw the floor plans to that scale. The scale of quarter-inch to the

The ground plan came into use a third time when it was traced in its place on the mount, which was made of a ¾ inch board with a moulding around the edge to finish it off. Well within the outline of the ground plan, a row of one inch brads were driven in to half their length, spaced about an inch and a half apart. Several larger brads were similarly inserted in the center. The space within the plan was then given a generous coat of shellac and, before it was allowed to dry, the ground floor of the house was forced gently but firmly down in place. The second floor, garage, and a small piece for the chimney were mounted in their respective places in like manner.

All sizable pieces of soap were saved and were joined haphazard to a bar of soap to form the mass from which the tree was carved. A weeping willow tree was chosen, not alone because it was considered decorative, but also because the foliage drooping to the ground made a more stable mass. The tree and lily pool were mounted with brads and shellac—a small mirror being employed for the water of the pool.

The grass was made of melted soap mixed with ground glue (this glue hardens when thoroughly dry and its adhesive qualities are necessary to make the soap adhere). A bar of soap was melted down in a double boiler (as no water should be used, this double pan arrangement is necessary to prevent burning). When the soap was soft about two ounces of melted glue was added to it and thoroughly mixed while still warm. The mixture was then spread evenly over the mount which had first been slightly dampened with a paint brush dipped in water. A knife was used for the spreading. After being allowed to dry for a few hours, the surface was then planed off with tool 6, and painted green all but the space for the hedge-enclosed garden back of the solarium and the small path at the back door. These spaces were scored to represent flagging and painted grey. The hedge that encloses the garden was carved in two pieces; the flowers and bird-bath were carved as part of the side of the hedge they are on. The hedge with its accessories was painted and mounted with brads and shellac.

The driveway was cleared of all soap down to the wood base and painted light grey. An automobile was carved, painted, and mounted on the driveway to indicate scale. The entire model was given a coat of shellac, the edge of the mount was painted black, and the job was complete—all but making the awnings.

These were made of very fine white cotton cloth which was first shellacked. The design for them was made on paper, the cloth was placed over the design, and it was traced through—they were painted and then cut out and mounted with very thin but firm black wire ("invisible" hairpins are admirable for this purpose). The spear awning supports on the back roof were carved from toothpicks and painted black.

The planting around the house was drawn or incised with tool 5, a corner of the right-hand end of which cuts very finely, clearing the soap away at the same time. The vine and flowers part way up on the house were made in slight relief. The small bushes in the back and the shrubs and rocks were formed of the glue and soap mixture which remains quite plastic for some time and is quite easy to shape. This mixture is very valuable in garden developments because while there are many trees that can be carved from soap such as weeping willow, weeping beech, larch, firs, and similar trees whose branches hug the ground, there are spaces where the silhouette of an elm or an oak seems necessary to give the desired result.

A simple armature for trees can be made of wire, but *covered* wire is necessary for the soap and glue mixture will not adhere to bare wire. This armature can be varied in shape to suit the character of tree desired (see Figure 3). The plastic soap can be modeled on the armature, the tree painted and mounted as indicated in Figure 3 with double pointed tacks, and the roots modeled with the plastic soap.

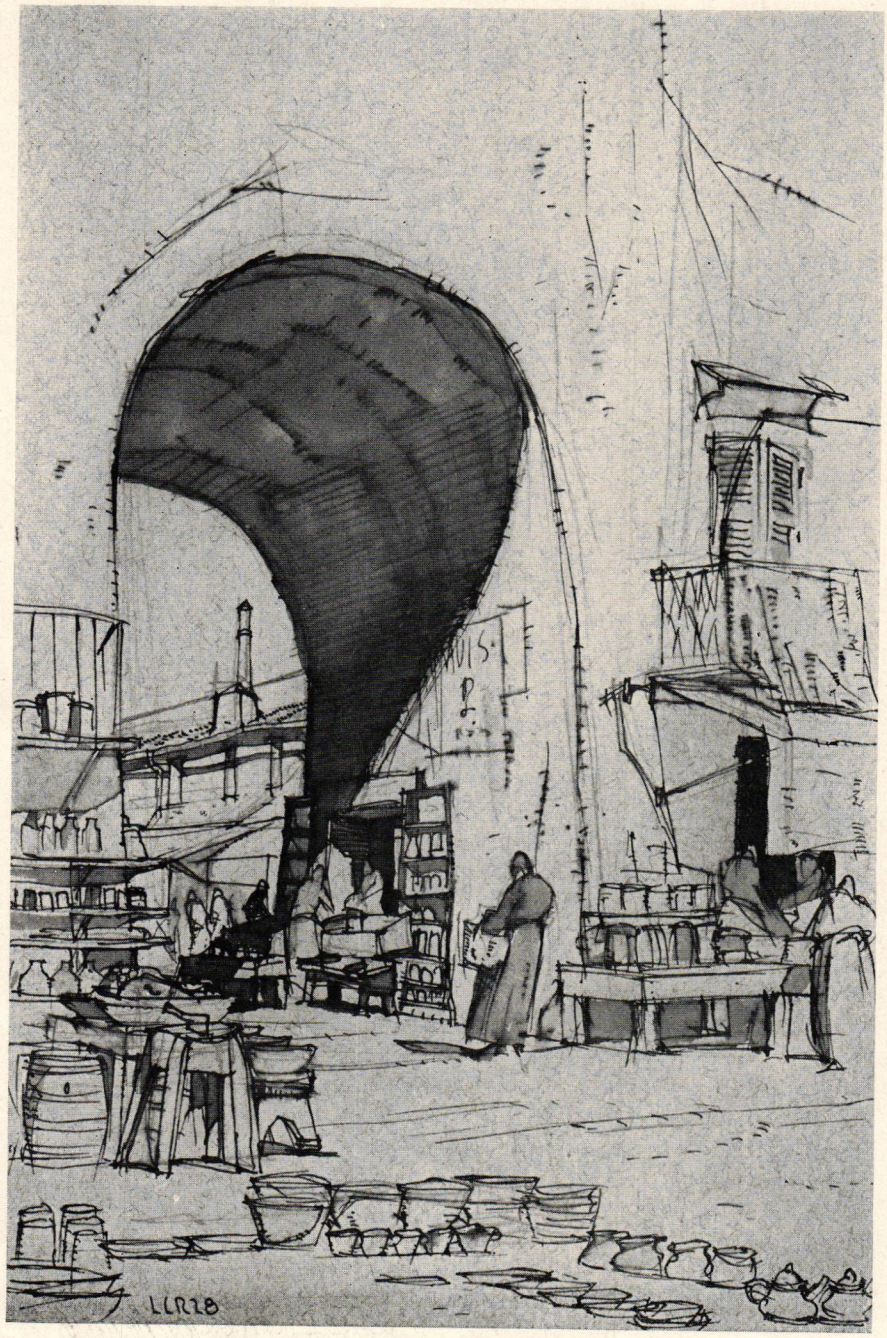
With models of small houses of decided modernistic tendencies, modernistic tree forms can be used. These can be carved easily and quickly and when they are designed and placed judiciously they do not in any way attract attention to themselves but rather tend to emphasize the dominant features of the structure.

For small models where extreme metrical detail is not so important as quality and effect, soap is the best medium available. Even when it is not used for the structure itself it is exceedingly useful for making the trees and shrubs necessary for an interesting layout. It might be said to be invaluable to those making garden models as there is no other medium that can be so quickly cut into bushes, trees, garden furniture, urns, balustrades, flower pots, sundials, bird-baths, fountains, and garden sculpture.

PLATE XXI

VOLUME X NUMBER 6

The drawing shown on this plate was made in blue ink with a fountain pen on a blue-gray paper. We have reproduced it at the exact size at which it was drawn so that every stroke is shown as the artist put it down. The washes were also applied with the blue fountain pen ink. This sketch is a rapid study, made direct from nature, for an etching or dry point to be made later in the studio and shows how an etcher collects his notes in the field.



FOUNTAIN PEN SKETCH BY LOUIS C. ROSENBERG

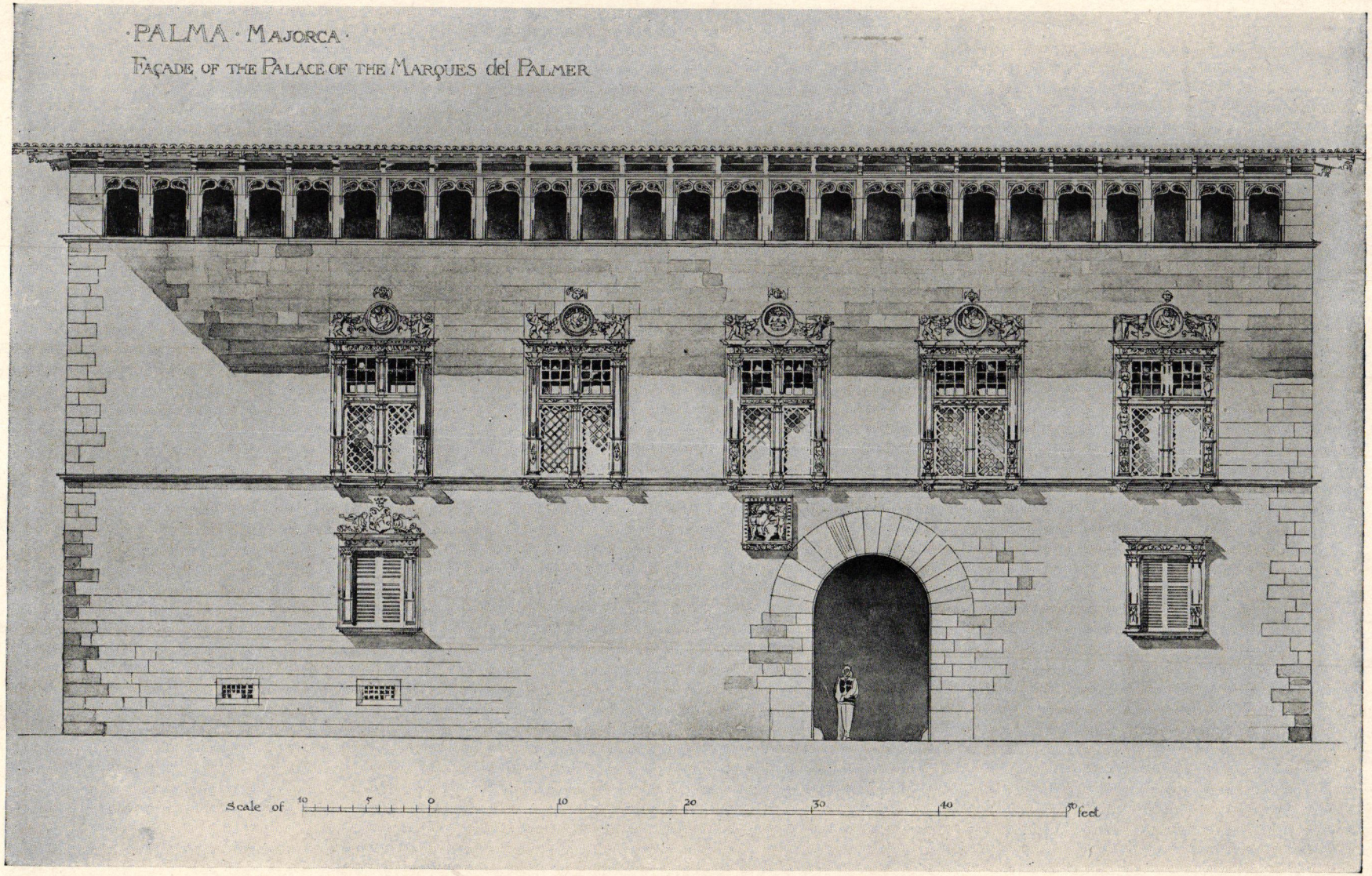
"COURS SALEYA, NICE"

PLATE XXII

VOLUME X NUMBER 6

"Amidst the narrow silent streets of Palma stand many palaces of the nobility, inhabited by the descendants of those for whom they were erected centuries before, as in the case of the example in question. The Casa Palmer is situated in the Calle del Sol, and is one of the best specimens of an early Renaissance façade in Palma, embodying all the features peculiar to a Mallorican mansion. The open attic, or 'porche,' is designed to admit a current of air to circulate under the roof, thus ensuring coolness in the rooms below. In this example the arcade is in a late gothic style, while the beautiful Renaissance windows below, all of different detail, mark the position of the lofty reception rooms. The chief feature on the ground level is the simple round arched entrance, nine feet in width, which is the usual dimension of doorways to houses of this class in Spain, opening into a spacious vestibule. Beyond this is an open patio, leading to the grand staircase, which in this case however is rather plain looking. The family coat-of-arms is placed at the side of the doorway."

A. N. PRENTICE.



RENAISSANCE ARCHITECTURE AND ORNAMENT IN SPAIN

A PLATE FROM THE WORK BY ANDREW N. PRENTICE



TRIPTYCH BY FRANK H. SCHWARZ FOR MORTUARY CHAPEL

SAINT JAMES CHURCH, NEW YORK—CRAM AND FERGUSON, SUPERVISING ARCHITECTS

PLATE XXIII

VOLUME X NUMBER 6

This triptych was painted in tempera and glazed according to the Flemish technique. The center panel, portraying Christ and Mary Magdalen, measures, in the original, 14″ wide by 20″ high. The side panels, representing the Virgin Mary and Joseph, are 6″ wide.



WATER COLOR AND GOUACHE RENDERING BY JOHN T. CRONIN

UNITED STATES LEGATION AND CONSULAR BUILDING AT OTTAWA—CASS GILBERT, ARCHITECT

PLATE XXIV

VOLUME X NUMBER 6

This rapidly made but very effective rendering was made on pearl-gray mat board. The pencil layout was rubbed onto the board and the façade of the building was rendered with Chinese white to which a little yellow water color was added. Planes at right angles to the main façade, such as window and door reveals, the sides of the gateposts, and the side of the building were done with pure Chinese white. This treatment gave a very sunny effect. Semi-opaque water colors were used sparingly in the foreground, windows, trees, etc.

TALE-LIGHTS OF THE A.I.A. CONVENTION

"I love the lazy Southern spring,
The way she melts around a chap
And lets the great magnolias fling
Their languid petals in his lap.

* * * * *

"But best of all I love to steer
For quiet corners not too far,
Where the first juleps reappear
With fresh green mint behind the bar."

"The First Julep." BLISS CARMAN.

THE ARISTOTELIAN (peripatetic) Convention of the American Institute of Architects, held in Washington and New York City (April 23—26 inc.) was the sixty-second time this august body foregathered in solemn conclave. With the exception of the formalities incident to the opening and closing of the sessions, the report of the Board of Directors (a truly monumental task beautifully presented in installments by Frank C. Baldwin—it seems only yesterday when as a rosy-cheeked lad he sat next to us under T. M. Clark of the Massachusetts Institute of Technology, Course IX, and poured water in the hollow of Ranny Coolidge's stool while Ranny leaned forward to ink the top border of his *projet, ehu fugaces!*) and the report of the Committee on Credentials, the proceedings were quite human in character. It is no longer considered undignified to crack a merry jest or two as occasion warrants, even to poke the salient finger of urbane ridicule in the midriff of profundity, to enliven an otherwise Bœotian session. Consequently everybody had a good time.

There were some anxious hours, however, on Tuesday morning when delegates began pouring in from San Antonio and Atlanta and Rutland, Vermont, and Eugene, Oregon, and the Virgin Isles, and found that no rooms were available for them. It began to look dark for the management of the "Mayflower" when Dr. Fellows, the antiquarian, and Colonel Fullerton, the archæologist, threatened to hire a lawyer and sleep on a couch in the main foyer if rooms were not forthcoming at once. By nightfall conditions had ameliorated considerably and the management really did some fine constructive work in the assignment of accommodations.

Colonel Fullerton was given a splendid room on the second floor all by himself, with private shower overlooking DeSales Avenue, large open punch bowl (where every evening numerous friends gathered from 5:30 to 8:00, toasting the Colonel's health in generous bumpers), slumber queen mattress, and squab-cushioned easy chairs. Dr. Fellows was assigned a suite of rooms of easy access to the convention hall, with private dining room and kitchen. In the kindness of his big generous heart he shared his suite with three timid little delegates from the backwoods who were quite overcome with the honor of this unexpected association, and only too glad to be allowed to order the White Rock (advt.) and cracked ice that were in constant demand at least thrice daily.

At ten o'clock, or thereabouts, the delegates were called to order by President Hammond, looking very large and handsome in a modish morning costume, wing collar and white carnation. What he had to say was full of meat, succinctly and concisely expressed in terse straightforward periods. When he was through he stopped. It was all very business-like and democratic, with ample opportunity for free and extended discussion, and while there was no attempt to adhere strictly to parliamentary procedure, the question under discussion was seldom lost to sight.

In discussing the development of the national capital, Colonel Ulysses S. Grant III endeared himself to his hearers not only by the keen logic and virile presentation of his subject, but likewise for his forceful bearing, splendid presence and boyish enthusiasm for the aims and ends for which the Institute has unceasingly striven for more than a quarter of a century. Even though he goes somewhat further than the Fowler Boys in the matter of antepenult and antiphrasis (e.g., exig-ency, optimum), he will still remain enshrined in our hearts as a kindred soul.

Coming down on the train Arthur Rice told us the Coffee Room was the best place to eat in the "Mayflower," and after the morning session the Boston delegates joined forces with the Rutland sub-chapter division in this truly delightful bower, where, under the shade of banyan trees and exotic oaks, lulled by the languorous murmur of singing sands and twittering bulbuls (depicted on the walls in exclusive block print panels), deft waitresses, culled from amongst Washington's fairest, brought honey and locusts and Persian pasties.

The lure of glinting sunlight in the lindens and the aromatic breezes, heavy with the scent of oleander and Yoshino (Yedoensis), were stronger than the will to return for the afternoon session. Besides, some of our little playmates had never seen Mt. Vernon, so an expensive high-powered car was ordered for three hours at $4.00 an hour. (There was a catch in this as we found out on our return, the bill being at the rate of $5.00 an hour—outside the city limits.) Mt. Vernon is lovelier than ever, sparkling white and green, the broad Potomac stately flowing, purple and amber, the luscious box and black cypresses, laughing bevies of high school girls scrambling over the ha-ha, and the soft musical drawl of the gardener's apprentice.

Christ Church, Alexandria, majestic and calm, bears the weight of its 155 years with dignified acquiescence. We stopped long enough to admire

again its graceful spire and beautifully proportioned windows, lay a sprig of eglantine in the old graveyard, and thence returned to Washington by way of Arlington. As we stood under the portico of the stately Lee mansion, the national capital lay stretched out before us in the late afternoon haze as if in the hollow of one's hand. This is a truly Tuscan Messuage of the Golden Age, fittingly crowning the Grampian Hill, worthy of the Lars Porsena who once dwelt there. The Tuscan order is remembered by most of us as our first essay in architectural drawing, and is usually associated with a new set of drafting instruments, shiny triangles, a bright new pine drawing board, and heartrending experiences with Whatman's imperial cold pressed, Higgins mucilage, and a soppy sponge. Once the drawing is finished, the shadows cast and rendered with graded washes, the Tuscan Order is thereafter a closed book. We forget all about it. Viewing the Portico of the Lee Mansion, one comes to realize the impressive majesty of Etruscan Culture, the choral chant, the smoking altars of Romulus and Remus, the Golden Bough! The Past draws nearer, the picture leaps out like the twin photograph in the adjustable slide of the stereoscope.

The Corcoran Art Gallery was alight with the beauty and the chivalry of the architectural profession on Tuesday evening. Our bosoms were perfumed with pride when the Secretary of the Treasury pinned the Gold Medal of the Institute to the lapel of the faultless evening coat of our blushing and well-beloved ex-president, Milton B. Medary. The Army and Navy band played the *"Sambre et Meuse,"* and a tear of heart-felt emotion glistened in Dr. Fellows' eye as he acclaimed this notable recognition of the Mother of the Arts by the distinguished government official. For the first time, almost since the days of Washington and Jefferson, the national government is taking an active concern in the development of the Capital, working in conjunction with the Institute Committees on Public Works and National Capital and lending an appreciative ear to the plans they propose. The seed sown by the McMillan Commission is beginning to bear fruit and the recipient of this year's gold medal has, we believe, devoted a large share of his time in cultivating its tender shoots. We may yet live to see the day when the President's cabinet shall include a Secretary of Fine Arts, in rank and precedence second only to the Secretary of State.

We all came away from the Corcoran Gallery (after pausing to view once more the Boutet de Monvel Jeanne d'Arc pictures in the W. A. Clark collection, than which no finer decorative panels have, to our way of thinking at least, been done since the days of Benozzo Gozzoli) full of noble thoughts. As the evening wore on in animated discussion we became fuller and fuller and finally turned in around three after a whirlwind symposium by Charley Klauder on Adam chimneys. You see, when architects from far-flung regions meet under favorable circumstances only about once a year, they have much of mutual import to impart, and it takes time and large quantities of White Rock to do it quantitatively.

The next morning we listened to various reports followed by an address on Long Range Planning.

The work of the Committee on Public Information seemed to have the hearty endorsement of the Delegates, and resolutions were passed most flattering to William Harmon Beers, its energetic and efficient chairman. In fact one of the slogans of the Convention was "Three Cheers for Beers!" Mr. Foster who wrote a book with another called "The Road to Plenty" was most engaging, though why he should boast of "knowing nothing about architecture" was beyond us. It's all right perhaps to disclaim a knowledge of economics, for apparently there ain't no such animal, John Stuart Mill to the contrary. Poor Stuey's theories are discredited, it seems, but Art! fie Mr. Foster, no nation may exist without art, and all citizens should know something of it. The "Dymaxion" house for example, designed and patented by Buckminster Fuller, the model on exhibition in Room 563, was a most ingenious and ingenuous contraption, calculated to upset all established theories of building. The materials are duralumin and piano wire and everything is in tension, automatic and pneumatic. No description can do it justice, certainly it takes a lot of explaining, but its appearance calls to mind the limerick concerning the invention of a certain young man of Racine. We suggest a post-graduate course in the Beaux-Arts Institute of Design for Mr. Fuller, so that he may soften and humanize his mechanical nudities.

We were so upset over the Dymaxion House that we left the morning session hurriedly, even forgetting to return till late in the afternoon. Out in the sunshine amid the tender spring foliage with beautiful architectural forms all about us, life became normal once more and we were able to dismiss disquieting thoughts for the future of our suburban developments. Not that suburban devilment isn't disquieting enough as it is, Heaven knows, but the admixture of piano wire and duralumin and the pneumatic hypothesis with craft-tex and celotex and maftex and all the other texes is not conducive to the advancement of that which the Greeks call "Taxis."

We paused to admire the new British Embassy which is being built by our fellow member, Sir Edwin Lutyens, on Wisconsin Avenue. The work is hardly far enough advanced to judge of it properly, but there are many nice things about the brickwork and the window openings, and the site is a splendid one. The Cathedral on Mt. St. Albans is now sufficiently advanced so that one can begin to realize its majesty and grandeur. The flying buttresses of the crossing are particularly impressive as are in fact the choir and chancel, which now have their leads.

We watched with interest the gardeners setting some fine box along the south walk. The trees came

in great shallow tubs, "Like a section of the Hoffbrau tuns in the beer caves of Hildesheimerschloss in Wurzburg," as Dr. Fellows remarked.

"By the way," continued the antiquary, "what can have happened to Colonel Fullerton? He refused a drink this noon. Ordinarily, like all good architects, he will drink any given amount. Perhaps the Gentlemen of the Press were too strenuous for him last night."

Refreshed and invigorated mentally by our excursion we returned to the "Mayflower" with keen anticipation for the evening session of the Committee on Education. Due to the extended preliminaries and the excellence of the hotel's cuisine—Robbins Island oysters, consomme amourettes de Ninon, shad roe and Irish bacon, asparagus Hollandaise and café d'Ispahan —we were somewhat late for the meeting. The Chinese Room was hot and crowded but we found some seats near the front next to a large and bulbous delegate, entirely too large for the diminutive chairs, consequently he overflowed into our lap while his powerful arm embraced the backs of at least three chairs. The committee reports and the discussion that followed were of deep interest as these evenings devoted to education always are, and in spite of the exuding personality that enveloped us we were able to follow almost every word with sustained attention.

Mr. Cheney, who received the medal for craftsmanship in behalf of his firm, gave a fresh point of view of the modern craftsman who, it seems, is no longer an individual but a composite of Poiret, Henry Ford, Owen Young, James McNeil Whistler, and the Dolly Sisters. Unfortunately our hero, Diego Rivera, was not present to receive the Fine Arts Medal, an event which had been anticipated with interest, but we listened to an engaging word or two from the French and English holders of the Institute Fellowships, two most attractive young men of contrasting types.

There seems to be something in the atmosphere of official Washington (or possibly we bring it with us) that is not conducive to a strict observance of the maxims of Poor Richard about going early to bed, etc. Again we found that many of the problems under discussion in the small hours of the previous evening remained unsettled and that it was necessary to take up the various threads where we had left them. Some new faces appeared and some new experiences were related that inured to the mutual benefit of all. Tales were told worthy of the "Noctes Ambrosianæ," stories which space does not permit the recording at the present time, though we hope some day to have the privilege of embalming some of them.

Thursday morning's session is just a wee bit hazy in our minds. We know there was one for we remember distinctly losing our hat and having to buy (at a large outlay) a new one in the Willard Shop, Stoneleigh Court. Oh well, our old green felt had weathered three bleak New England winters and was becoming somewhat faded anyway, and after the first gasp we left Stoneleigh Court poorer but decidedly modishly garbed. The clerk said the felt was the French equivalent of the Italian Borsolino.

The evening of Thursday, April 25, the delegates were guests of the Hon. Andrew Mellon at the Chamber of Commerce. The occasion, while possibly no more brilliant than the reception of Tuesday at the Corcoran Gallery, was of even greater significance to the profession. Cordial recognition and emphatic approval of the work of the Institute was accorded by the President of the United States who spoke graciously and feelingly not only of the originator of the Plan of Washington, Major l'Enfant, but also of the work done during the past few years by the various commissions having the development of the plan in charge; work to which representatives of the Institute have contributed notably. The New York *World*, commenting editorially Saturday morning on the President's speech, called it a tribute from one engineer (Hoover) to another (l'Enfant). This is emphatically true, still l'Enfant was something more than an engineer, he was a great designer who understood the laws of Symmetry and Dynamics, and whose intuitive foresight has placed him in the front rank of notable architects and creative artists.

In the days before the age of steel and duralumin and phosphor-bronze, the architect and the engineer were one. The denser material with its exact formulæ seems to have atrophied something in the soul of the designer causing a separation of functions that should properly be welded in order to extract the inherent beauty that lies dormant in nature. The engineer has grasped that branch of building which is an exact science, but neglected the human qualities without which no structure may endure; the ultimate result is the Dymaxion house. In part, however, this phase is passing and in the so-called "Modernistic movement" we are beginning to see light once more; the bright morning star shining through the murk of machinery and girders and dynamos and reinforced concrete and mass production, as one might say. The Immortal Muses, not to be deterred, are peeping from behind the chain-bound barriers of a welter of steel, their delicate nostrils slightly distended, sniffing eagerly the sunlit fields of asphodel and rhodocaphne. In violet-tinted morn and in the haze of the afterglow, you can sometimes see the faint flutter of their shining wings.

Still while we are living in this mechanical age we may as well take advantage of its conveniences. The special train to New York, so thoughtfully provided by the committee on transportation, left Washington very early indeed Saturday morning, bearing eight car-loads of precious freight. On our arrival in the Metropolis Dr. Fellows most kindly invited us to his club for a bath where we splashed around in the pool in a state of complete abandon, and after-

wards partook of a delicious breakfast of eggs and Yarmouth bloaters. The antiquary was a little thoughtful as he sipped his coffee; whether he was thinking of the charming girls in the Coffee Room of the "Mayflower" or regretting that he would be forced to leave the city that noon, thus missing the festivities at the Architectural League, none of us felt like asking. We all, however, visited the big show in the Grand Central Palace where we spent a most enjoyable sesquipedalian hour. Drawings of almost unbelievable beauty and skill of execution hung on the walls, relieved at intervals by carefully culled examples of furnishings, furniture, glass, iron and bronze, woodwork, imitation woodwork, hardware, floors, rugs, carpets, bathrooms, and other architectural and decorative accessories. There was also a dramatic portrayal of the building industry and a modernistic cellar. The whole show hung together mighty well though, and some fine examples of sculpture afforded a pleasant relief to the drawings and photographs.

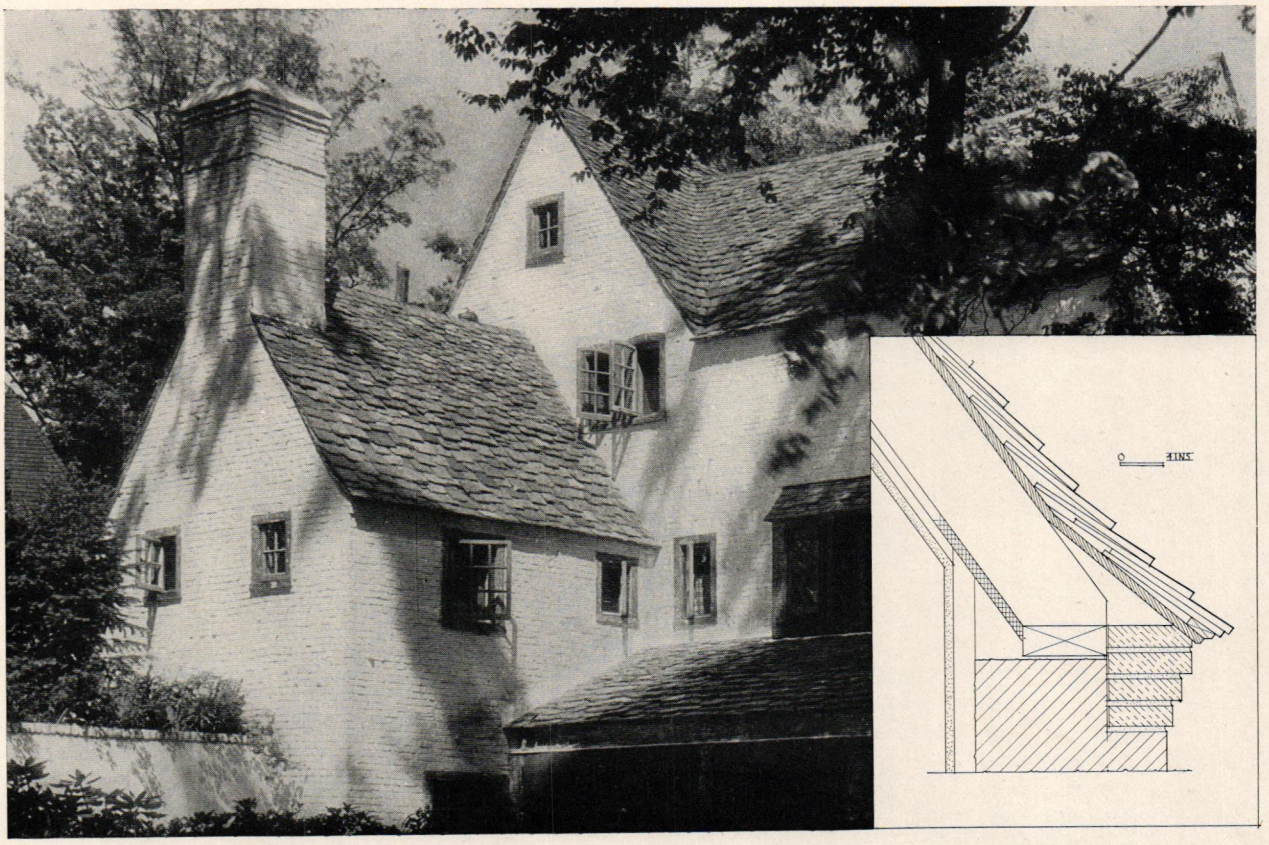
The façade of the Beaux-Arts Institute of Design is most impressive and looks even better than the published drawings. We liked its scale, which is almost grandiose and the material, which is a beautifully toned mauve brick. The detail, while extremely simple, seems adequate.

We were discovered in the locker room of the League by our old friend and playmate, H. Magonigle, in what he called a characteristic pose, elbow crooked, head slightly tilted back, admiring the striking murals that give life and color to the walls. Harold is looking splendidly, his many out of town friends will be glad to know, erect and robust, hale and hearty, with a waistline that might well be the envy of all the Albertina Rasch girls. They say he skates every afternoon from four to six and his tibial muscles are as hard as iron. T. Walsh was with us at the time and the greeting of these two famous men who had not seen each other for years and years was touching in the extreme. An imperceptible hush seemed to steal over the room for an instant and then everything went on again as before. The dinner at the Roosevelt was a grand crush, at least several thousand at table. Sir Reginald Blomfield endeared himself to us by his complimentary remarks, and Kenneth Murchison and Robert Kohn left us in roars of laughter. All very jolly.

In contrast to conventions of fifteen years ago, those of recent years are notable for what might be termed their human qualities. Formerly the Fine Arts were rarely mentioned, whereas now we do not hesitate to speak openly about the dynamics and harmonies of contemporary taste. Hospitality seems more genial and warm-hearted and free-flowing, notably last year in St. Louis (an occasion that shall always remain enshrined in our hearts), and again this year in New York. The League was the perfect host and everybody was merry and care-free. The club house echoed to the sound of silvery laughter mingled with the deeper toned voices of distinguished artists, until a delightfully early hour on Saturday morning. The injunction of Kenneth Murchison, president of the League, "Be yourself!" was faithfully obeyed.

We started out with the intention of mentioning something about Claude Perrault (1613-1688) and how he designed the Colonnade of the Louvre. He was a distinguished physician and naturalist, friend of Colbert, and when le Vau fell down on his job, failing to satisfy Louis XIV with his design for the east front, Colbert instituted a competition. Some thirty or so noted architects and amateurs competed, and when the Professional Advisor opened the plain sealed opaque envelope (no distinguishing or identifying marks permitted), marked *"Numero Cinque,"* a card dropped out bearing the name *"Claude Perrault, Architect, Rive Gauche, en face du Café de Deux Magots."* The result was most gratifying to Colbert. Claude had a brother named Charles (1628-1703) who wrote *"Contes de ma Mere l'Oie"* and the two were in high favor for years. Perrault's design (1664) was new and original at the time and it is interesting to see how the City of Washington (not to mention other places), has followed his principles in numerous public buildings. The latest designs for the new buildings on the "Triangle" plot fairly pullulate with the spirit of Perrault. We were going to attempt a parallel, "Washington, la Cité au Bois Dormant," "Fairy Storys Realized," you know, all that sort of thing, but we've used up all our space.

HUBERT G. RIPLEY.



HOUSE FOR R. KILTHAU AT GREAT NECK, LONG ISLAND—FRANK J. FORSTER, ARCHITECT

The brick corbel treatment is effective and the projection of the eaves, though slight, is adequate to produce interesting shadows.

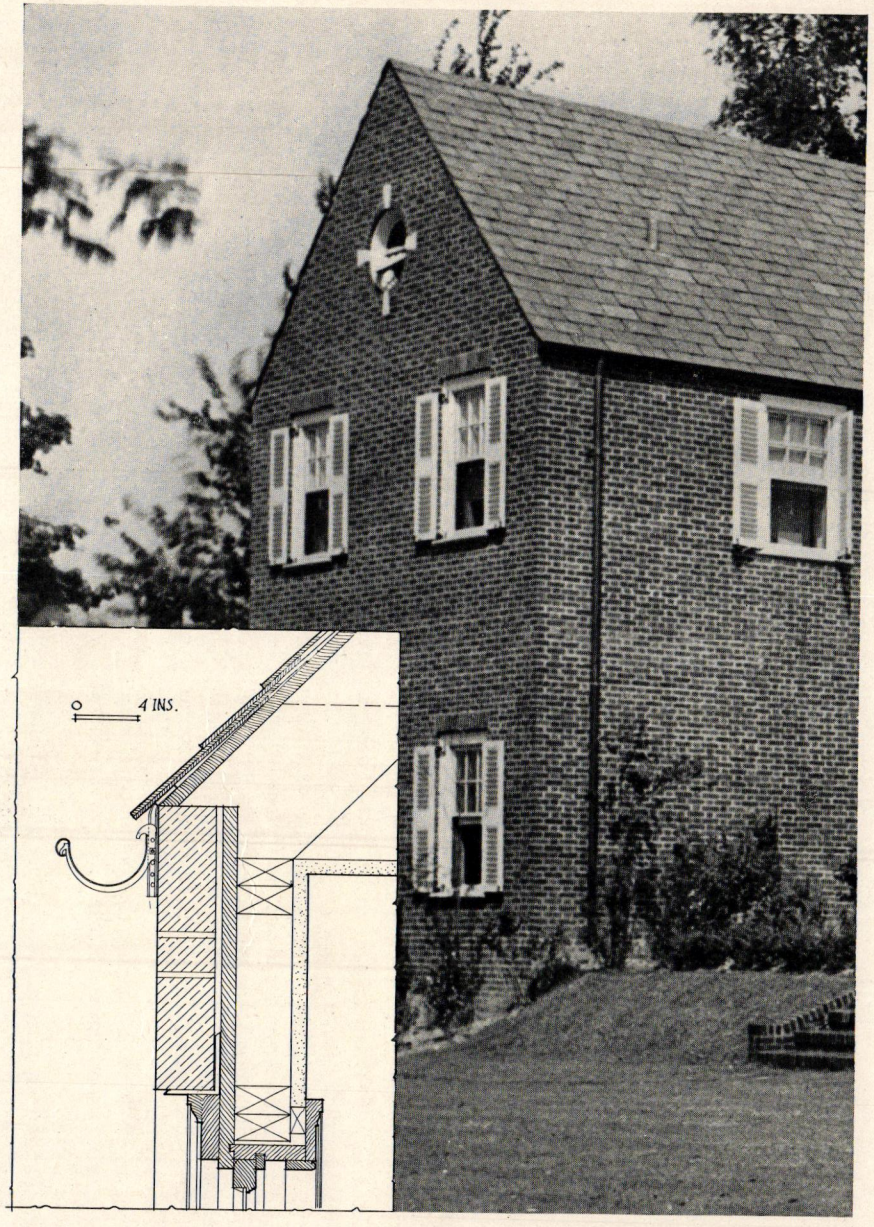
CLOSE CORNICES

By Rayne Adams

THERE IS NO ONE element of architectural composition which has suffered more change of fashion than the cornice. Of course the types of cornice put forth by the Greeks and Romans and the cornices of the classic Renaissance work maintain a certain consistency and sameness, but the applications of these standardized cornices to our modern work has been, in its variety, disconcerting and mystifying. The tall office building in particular, in its evolution through the past forty years, may serve as a good example to show the immaterial quality of the shifting standards of what is known as good design. From cornices such as that which crowns the Belmont Hotel in New York (in which case the crowning cyma and fascia are together about six feet in height) to the four-inch coping stone which serves as a crowning member of many of our tall buildings, the shift evidenced in the feeling for the need of a horizontal emphasis has been striking. One has the same feeling that one might have in seeing the populace change from wearing sombreros to the narrow-brimmed derbies of 1886.

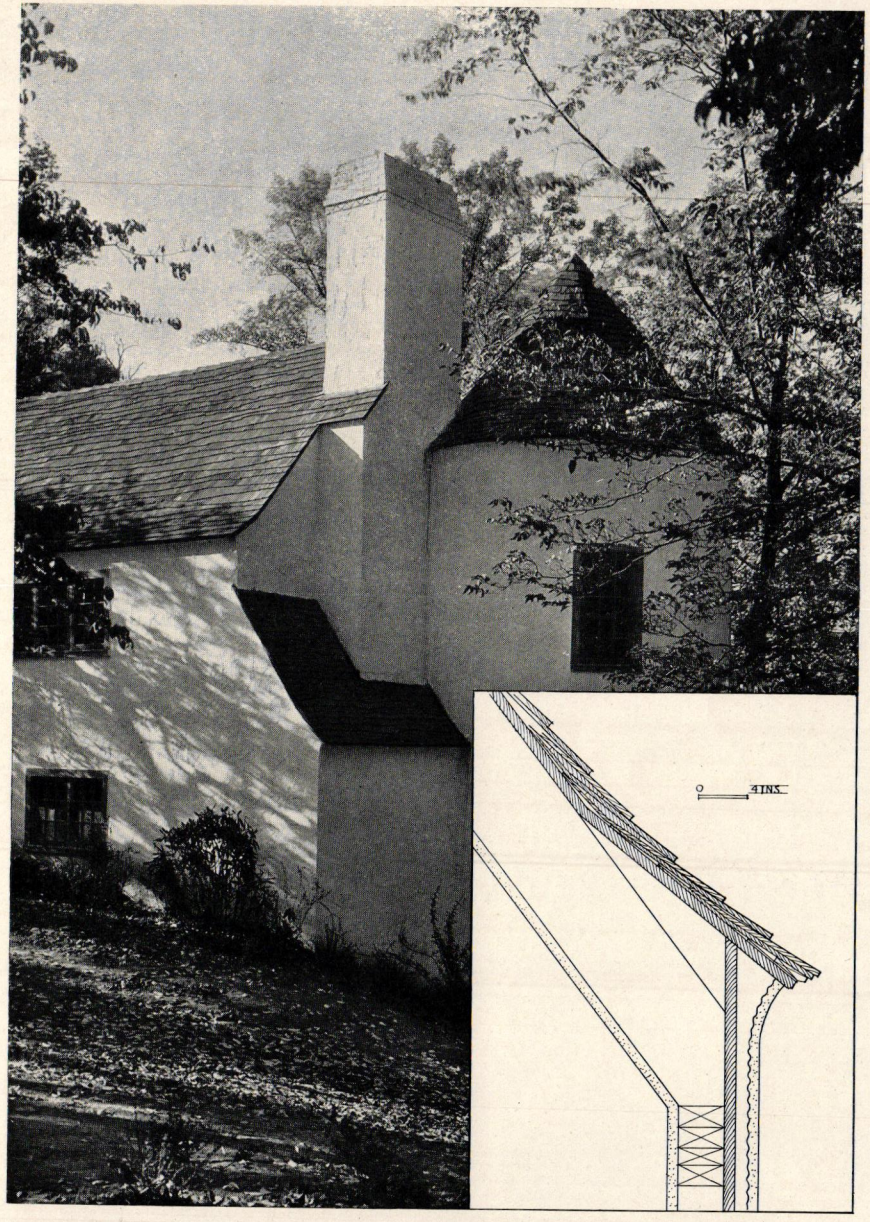
This change has, one may hope, been a consistent development in the recognition of the properties of design: the gradual suppression of the classic cornice on tall buildings would seem to be in answer to the criticism that a giant looks better in clothes designed for him than if he were dressed in the garments worn by dwarfs. Yet such is the swerving course of architectural style that it would not be beyond the bounds of plausibility that in 1950 the huge cornice may, as may the big hats of 1912, come back with all the sanctions of what is called good taste to back it up. Shifting sand. . . . . .

In this brief article, however, we are not concerned with the monumental types of buildings but with the humbler domestic work. If possible, this domestic work has worn more types of cornice during the past century than one can count. We had, in the beginning of the last century, the delicate Georgian cornice on the more pretentious buildings and the absence of any cornice special moulded or eaves treatment on the less pretentious. Then we passed through the many varieties of neo-Grec and mid-Victorian Gothic till we came to the age (circa 1880) when the craftsman's conception of mouldings was at its lowest and the cornices of that period are properly classed with those things which it is hardly decent to refer to. Then, about 1900, was born the type of cornice or eaves which projected some four feet or



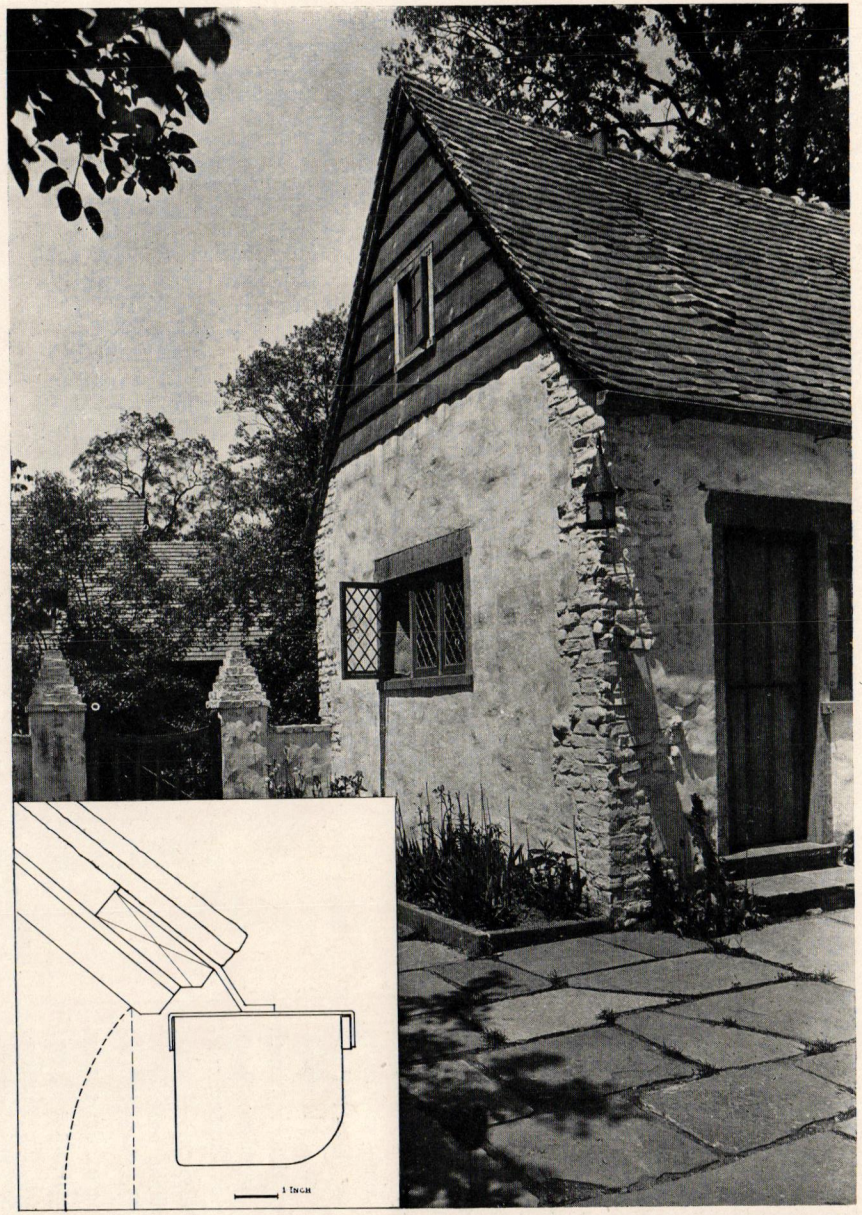
HOUSE FOR GEORGE COOPER AT SCARSDALE, N. Y.—EUGENE J. LANG, ARCHITECT

This brick veneer house shows an extremely simple construction at the eaves. There is no flare in the roof line.



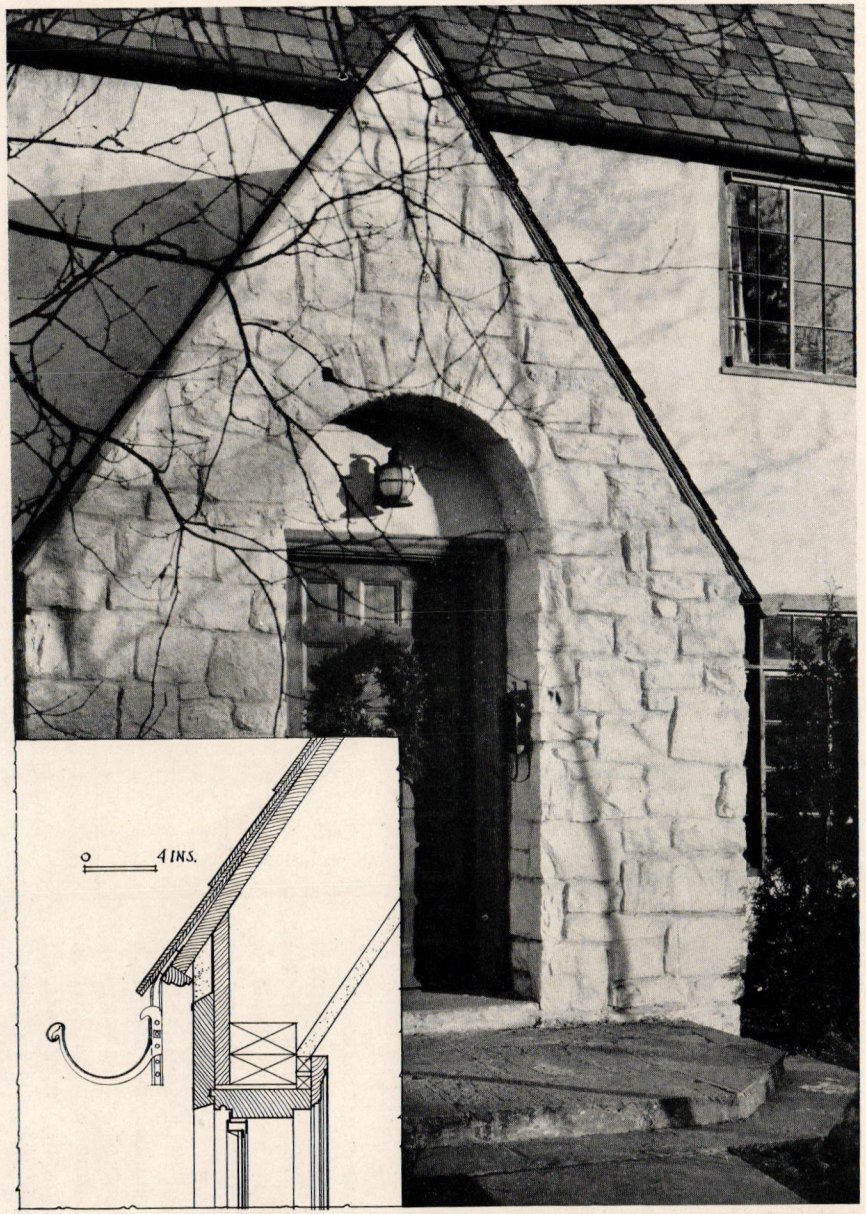
HOUSE FOR W. W. SIEBERT AT GREAT NECK, L. I.—FRANK J. FORSTER, ARCHITECT

The eaves in this case are not furnished with gutters. If hanging gutters were used, the detail shown in the detail of the E. C. Duble house would apply.



HOUSE FOR EDWIN C. DUBLE AT FOREST HILLS—FRANK J. FORSTER, ARCHITECT

Note the treatment along the rake of the gable, the irregular slate roofing and the slight overhang of the eaves.

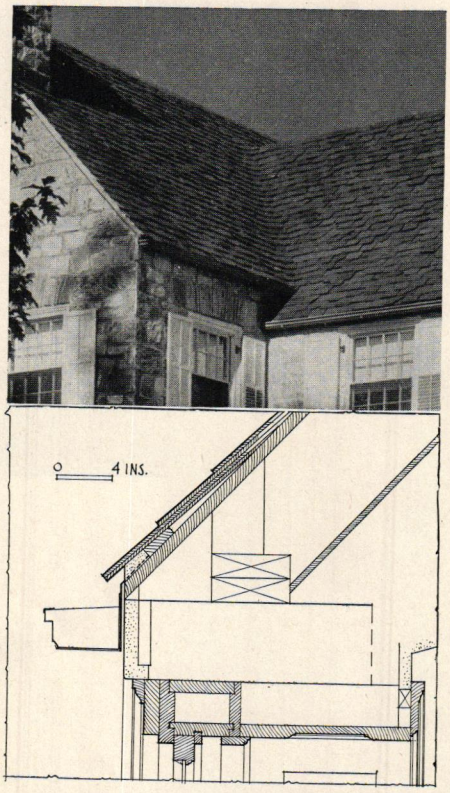


HOUSE FOR HENRY ECKARDT AT SCARSDALE, N. Y.—EUGENE J. LANG, ARCHITECT

In this house the rake moulding is so designed as to carry along the eaves. The hanging gutters are set high.

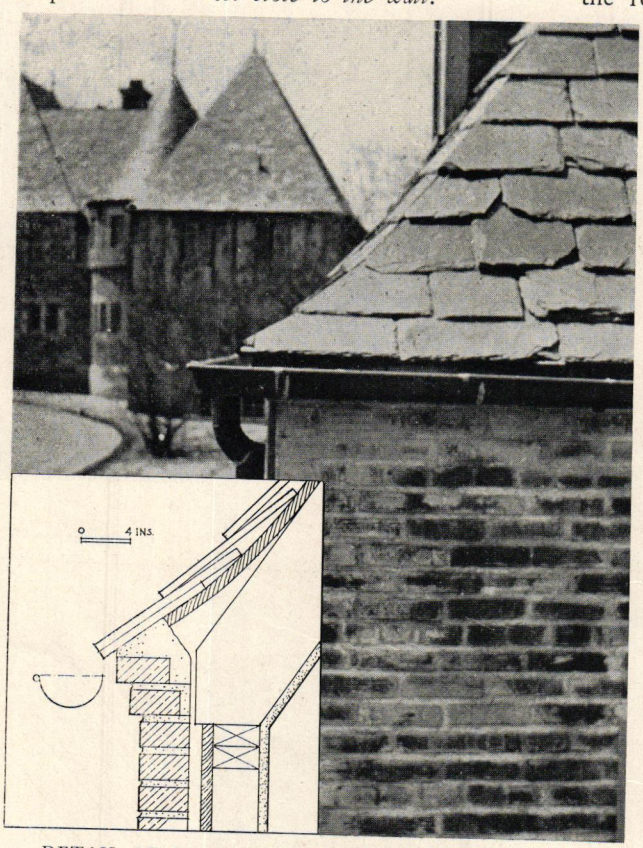
more, with huge supporting brackets. Finally after all these things which, in many cases, seem to have come from the mad-house department of architectural design, we come to the simple "close" cornice or eaves of our day. The examples shown in this article are reversions to the simple cornices so familiar in the cottage architecture of France and England. Whether we be right or not, for the moment they seem to best suit our architectural sense. Architects are very generally using this type of eaves treatment,—where the hanging gutter serves as the main element of horizontal emphasis. Yet in none of the books or architectural details, so far as I know, is this type of eaves shown. One finds many examples of the box cornice with its bed moulds and one finds illustrations of overhanging eaves showing exposed rafters.

One of the most notable things about the modern "close" eaves treatment is the location of the hanging gutter. Perhaps now that the seasons have changed (everybody says they have changed,—so it must be true,—and we get little or no snow in winter and much gray weather in summer) the old reasoning about the placing of the gutter does not have so much force. According to tradition, the outer edge of the gutter should be in the line of the pitch of the roof. A careful examination of the work of architects such as Mellor and Meigs, J. R. Pope, and others of equal standing, shows that in much of their domestic work the gutter is located considerably higher,—so that the line of the roof (projected) intersects the middle line of the gutter. This relationship is shown in some of the sections shown with this article. This relationship is, of course, an important one to consider inasmuch as it frequently establishes the relationship of the horizontal line of the eaves to the heads of windows directly beneath and thus bears directly on the location of the plate and other constructional members which are of primary and serious importance. The baffling problem of the cornice or eaves projection meets all conscientious designers, because until it is settled,—in feet and inches,—the pitch of the roof, the location of the plate, of the floor line and the consequent determination of head room at critical points, may be indefinite and questionable.



HOUSE IN WESTCHESTER COUNTY
EUGENE J. LANG, ARCHITECT
Note the use of stucco over window head, in the masonry opening. The gutter is set close to the wall.

In connection with the "close" eaves it is worth while to note the kick or change of direction in the roof pitch at the eaves. While this is subject to special conditions of the particular house design, it is helpful to note that in most of the work of many competent architects, the point where the change of direction in the roof framing occurs is approximately from 8 inches to 16 inches back from the face of the wall. This change of direction and the location of the point of change depends on many considerations: the steepness of the roof pitch, the consequent angle of the "kick"; the adaptability of the roofing material to the change of angle and so forth. With flexible roofing material such as wood shingles, the angle may be made fairly sharp, but with rigid material, such as tile or slate, there is danger, at the rake, that the apertures between the slates will appear gaping and awkward. It is curious to note, however, that such apparent lack of close fitting work is much less objectionable when thick slate or tile is used than in the case when wooden shingles are employed.



DETAIL OF EAVES, STABLE FOR THOMPSON ROSS, AT GREAT NECK, LONG ISLAND
LEROY P. WARD, ARCHITECT—HARRY J. KERRIGAN, ASSOCIATE

A PROTEST TO THE A.I.A. FROM THE ARCHITECTS' LEAGUE OF NORTHERN NEW JERSEY

EDITOR'S NOTE: *As announced on page 363, we shall be glad to receive letters from our readers expressing an opinion of the subject discussed in this letter.*

May 13, 1929

Mr. Edward C. Kemper, Executive Secretary,
The American Institute of Architects,
The Octagon, 1741 New York Avenue,
Washington, D. C.

DEAR MR. KEMPER:

At the last meeting of our league, the matter of the activities of various organizations, advertising and selling Stock Plans at a large profit to themselves at the expense of our profession, was taken up and I was instructed to communicate with you in order to place same before the American Institute of Architects for their consideration before we take action.

These schemes have been in effect for a number of years and the original plan boasted of the endorsement of the American Institute of Architects on the grounds at that time that it stimulated public interest in better architecture for small homes and thus was considered as being within the scope of educational welfare.

Time has conclusively proven that this aim was not accomplished but instead it made good plans available to Real Estate speculative developers and builders who "improve" the designs and mutilate them in most cases. These people can well afford to pay an architect and the price at which the Stock Plans are sold permit them to dispense with the architect or to use this as a club to force architects to lower their fees.

We do not hold any objection whatsoever to the publishing of good small house designs and block plans in booklet forms by building material manufacturing groups or others to stimulate building or better design and this often is a help to the architect and his client in selecting or deciding upon types of structures, but what we decidedly object to, is tremendous newspaper and magazine advertising, fixing and implanting in the public mind that the price and value of a set of plans for a dwelling is $25.00 or slightly more. This is working tremendous harm to the architectural profession, as the public proportionately places the value in its mind of architectural plans for larger structures.

As a matter of fact, it would be better for the profession at large, if working drawings must be furnished, that then in that case, that they be furnished gratis, without placing a value thereon. Anything but this business of advertising the value of plans as being $25.00 for a small home.

It is the hope of our organization that the American Institute of Architects through its proper committee will give due consideration and reverse its attitude toward this matter.

We propose to broadcast our position to all national building material manufacturers requesting that they do not lend their support or assistance to the services of any of these agencies, pointing out to them that the architects will co-operate with those that refrain from so doing and that on the other hand they are lending their assistance to interests detrimental to our profession.

We also propose to outline our position and reasons in detail and at the same time to circulate this among all architectural organizations as well as architectural offices, urging their concerted effort and support in this movement and that they likewise individually notify building material manufacturers of our position and that their draftsmen be discouraged from permitting themselves to be used by submitting designs in competitions as conducted for the purpose of securing designs for Stock Plans irrespective of prizes offered.

When it is considered that outside of the large architectural offices who do large work, the fact remains that the majority of the architects in the country are doing small houses and make a living thereby, and that this business makes it difficult for them to receive a full and proper fee and places them in a position where they must combat this advertising and spend considerable time convincing the owner that their fee is proper and correct and that it pays the owner to engage an architect even for a small house; it is difficult to see where these schemes are of benefit to the profession at large.

It also has produced a condition where many architectural offices have had to meet Stock Plan competition by engaging in the same practice and likewise selling Stock Plans at competitive Stock Plan prices, certainly a condition not resulting in better architecture. Furthermore, on larger operations, clients refer to advertisement prices for small house plans in relation to fees being charged them on their work when same are being considered.

It is also our fear that it will not be long before agencies will be formulated to feature and sell Stock Plans for churches, banks and other types of buildings, in which case eventually the architects will finally be working for such agencies entirely.

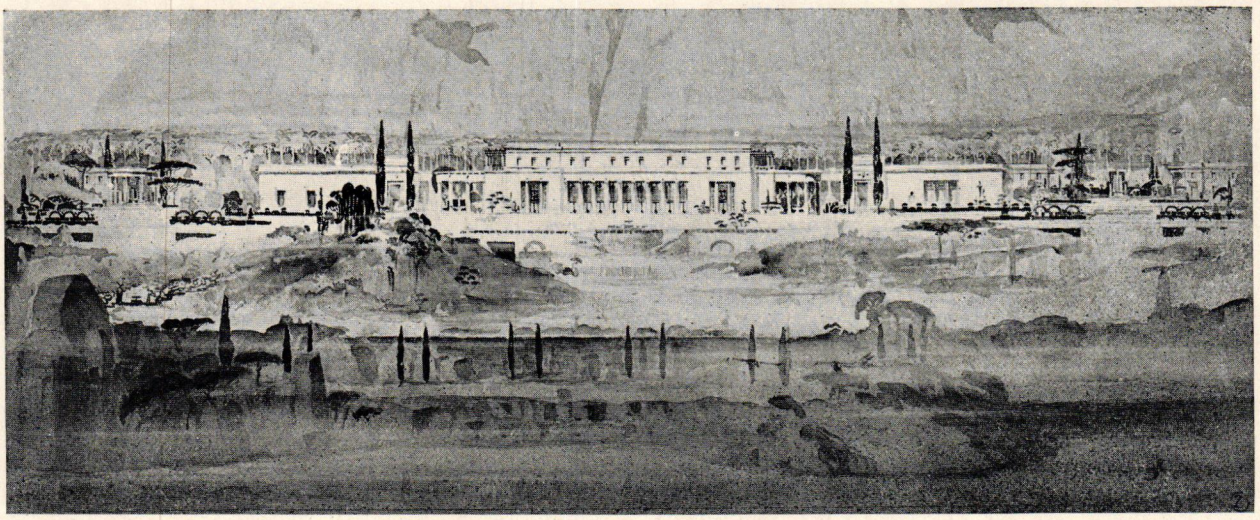
Whereas, it is the interest of the architects at large to encourage young men entering the profession and who naturally start with small house construction, it is detrimental for them to enter the field under conditions which tend to lower their fees, and, consequently the dignity and character of their work and the entire profession as a whole, which is done when the public is educated that the value of a set of plans for a small house is $25.00 or $50.00.

We feel that the time has come when the architects, their offices and their organizations must approach each other and building material producers in order to co-operate in regard to the above matters, and once and for all definitely realize just what the results of these activities are, and doing so, once and for all refuse to lend their assistance. Thus, tending to keep the profession on a professional plane and leaving the matter of proper house design, planning and construction entirely within the hands of the architect where it belongs and who is competent and well able to produce proper results, whereas, the schemes referred to, definitely and absolutely invite interference and meddling by others and results that are sad to behold.

We cannot also refrain from calling attention that after all is said and done, these groups are primarily motivated by a desire for profit and that they are not philanthropically interested in architectural design from an educational viewpoint and that the architect is being used to his individual disadvantage as well as is the profession as a whole.

Very truly yours,

HARRY LUCHT,
Sec'y-Treas.





ELEVATION AND PLAN OF DESIGN FOR "AN EMBASSY OF THE UNITED STATES NEAR THE CAPITAL OF A GREAT SOUTH AMERICAN REPUBLIC," BY CHARLES ST. GEORGE POPE

WINNING DRAWINGS IN THE COMPETITION FOR THE ROTCH TRAVELLING SCHOLARSHIP FOR 1929

ROTCH TRAVELLING SCHOLARSHIP

THE ROTCH TRAVELLING SCHOLARSHIP for 1929 has been awarded to Charles St. George Pope, of Sacramento, California. Second prize was awarded to Edward F. Allodi, of New York.

Mr. Pope will receive $2,000.00 for one year's travel abroad or $3,000.00 for two years' study. Mr. Allodi will be given $500.00 for travelling in the United States.

The subject of the Competition was *An Embassy of the United States Near the Capital of a Great South American Republic*. The Program stated that:

"The site is a large rectangular piece of land, sloping down toward a splendid view of the sea. At the top is a broad, straight, and level boulevard which bounds the upper side and is the only means of entrance to the lot. The two sides are bounded by great private estates. A public road runs along the sea below. The greatest dimension of the property is from the boulevard to the road. The natural beauties of the lower slope will be preserved and there will be no access from the lower road.

"The principal buildings are:

1. The Embassy Proper, of major importance.
2. A smaller building for the transaction of official business.
3. A building of about the same area as No. 2 devoted to the exhibition of the products of the United States.

"The above official part of the embassy will be surrounded by gardens of a formal nature."

Mr. Pope's winning drawings are shown opposite.

LEHIGH AIRPORTS COMPETITION

FOR THE DESIGN OF A MODERN AIRPORT

THE SUBJECT OF THIS competition, which is sponsored by the Lehigh Portland Cement Company and conducted for them by Taylor, Rogers & Bliss, Inc., 40 East 49th Street, New York, is the design of a modern airport, including the required structures, layout of the field and the relationship of all facilities to each other, to the landing area and to the transportation facilities reaching the airport. The designs shall be based upon an assumed site, and shall incorporate the structures as specified in the program.

This competition is open to all architects, engineers and city planners residing in the United States. It is not open to foreign entries. Inasmuch as this is an open competition, no inquiries from competitors can be answered by the members of the Program Committee, Francis Keally, the professional advisor, the competition managers or the sponsors. The competition closes at midnight on November 18th, 1929. The Jury of Awards will meet as soon as practicable after November 18th, 1929, and will select the winning designs and those receiving mentions. Announcement of the decisions of the Jury will be made public immediately and checks will be mailed to the winners as follows: First Prize, $5,000; Second Prize, $2,500; Third Prize, $1,000; Fourth Prize, $500; and ten Honorable Mentions, each $100.

CLOSING DATE OF COMPETITION CHANGED

THE CLOSING DATE of the National Better Homes Architectural Competition, being conducted by the Home Owners Institute, 441 Lexington Avenue, New York, has been extended to June 30th. This competition was announced fully on page 193 of the March issue of PENCIL POINTS.



CHARLES ST. GEORGE POPE

CHARLES ST. GEORGE POPE, winner of the 44th Rotch Travelling Scholarship for 1929, is 24 years old and a native of Sacramento, California.

After two years at Leland Stanford, Jr., University, Mr. Pope transferred to the Massachusetts Institute of Technology to gain a B. S. in Architecture in 1927. While working in the offices of Henry and Richman, and Coolidge, Shepley, Bulfinch, and Abbott, in Boston, he studied at the Boston Architectural Club. This was followed by a term of graduate work in the architectural school of Yale University.

Mr. Pope wishes to thank Professor Emerson of M.I.T. and Dean Meeks of Yale for their advice and help, and Professor Carlu of M.I.T., Professor Haffner of Harvard, Professor Faelton of Yale, and Messrs. George Licht and Burnham Hoyt of New York for their most generous assistance and criticism. Mr. Pope is now in Atelier Licht in New York and has been with Raymond Hood, Godley, and Fouilhoux, Architects.

He will sail in September to take up his studies abroad.

SKETCH CLUB ATELIER

THE SKETCH CLUB ATELIER of New York closed its third season the evening of May 7th. At the request of the students, the usual number of twenty-four sessions was extended to twenty-eight. During this past year Mr. Arthur L. Guptill and Mr. A. Thornton Bishop shared the instruction assignments.

Plans are being made to open next season in the same quarters at 170 Fifth Avenue, beginning October 1st, 1929. Applications will be received any time during the summer at the office of A. Thornton Bishop, 105 West 40th Street, New York. Further particulars will be announced during August.

LOS ANGELES ARCHITECTURAL CLUB

OUR GREATER MEMBERSHIP, the constantly increasing executive work and the necessity of providing more comfortable space for the members has made the removal of the club offices imperative.

We now have a small lobby, an executive office and a general room. The partitions, while temporary in character, divide the space satisfactorily for present requirements.

The further expansion of the club quarters has been explained to the owners of the building, and they have consented to give us a brief option on the adjacent office to that which we now occupy, and which, when obtained, will make a most ideal library. But until that time we will have a library in our general room.

A growing faith in our Employment Service is evidenced by the increasing number of monthly calls which come into the office for draftsmen. We were able to place forty men last month. It is gratifying to know that both the architects and draftsmen are taking advantage of our efforts to be of assistance to them. And the general public as well, is beginning to call upon the club for men to help with problems too small to warrant the services of an architect.

Meeting with amazing success and popularity is our sixteen-page publication, *The Lintel*. Devoted, as this magazine is, "to the interest of architecture in Southern California," it aims not only to present the most interesting current news in this field, but also to produce some of the artistic and literary endeavors of our members. Our circulation at present is 1,100; but if requests for copies continue to storm the office, we shall be forced to increase that even as we were forced to increase the size from the first issue of four pages.

And the final and most important feature of this triumphant growth is our membership, which has shown, with each month, a bounding increase. This sincere co-operation establishes for us a foundation upon which failure is impossible.

NEW OFFICERS ELECTED

THE NEW OFFICERS of the National Council of Architectural Registration Boards elected at the Ninth Annual Convention held in Washington, D. C., on April 23, are as follows: Clarence Brazer, Chester, Pennsylvania, President; George D. Mason, Detroit, Michigan, Past President; H. B. Wheelock, Chicago, Illinois, First Vice-President; Delos Smith, Washington, D. C., Second Vice-President; A. M. Edleman, Los Angeles, California, Third Vice-President; and E. S. Hall, Chicago, Illinois, Secretary-Treasurer.

The discussions of the Council Convention were very interesting. The principal points of discussion were the reports of the Committee on Educational Standards and the report of the Committee on Practical Experience.

In connection with the discussion on educational standards, there was quite a lively debate between Mr. Brockway of the New York Registration Board and Mr. Myron Hunt, formerly of the California Registration Board, concerning the provision of the new New York registration law making a college education a paramount requirement for entrance to architectural practice in the state of New York. Mr. Hunt was of the opinion that the law should have given the registration board the right to consider the equivalent thereof in the matter of educational requirement for entrance to practice. He pointed out that there were notable examples of talented and competent architectural practitioners who would have been denied registration in New York because of lack of college education. Mr. Brockway insisted that times have changed and that the opportunities for architectural education are more universal than in former days, but seemed to admit that some discretionary power might be given to the board.

The headquarters of the Council are at 175 West Jackson Boulevard, Chicago, Ill.

SUMMER SESSIONS AT COLUMBIA

COLUMBIA UNIVERSITY summer sessions will this year include specially planned courses in architecture, the object of which is to bring students in contact with types of buildings in New York City and its environs, and to encourage them to utilize the experience directly in their architectural studies. These courses will begin on July 8, and continue for six weeks.

Visits under the guidance of the teaching staff will be made to the finest types of office buildings, hotels, apartments, hospitals, theatres, churches, public buildings, and private estates in the suburbs, so that students may study first hand the problems of modern American architecture.

Advanced architectural students will be given problems to design based upon the types of buildings visited, Prof. William A. Boring, Director of the School of Architecture, said.

Francis Keally and W. T. Armstrong will direct a course in architectural design, in which at the end of the Session the work of each student, based upon first hand study of city buildings, will be judged for value by a jury of architects.

Domestic architectural design will be taught by Prof. H. V. Walsh. The students, aiming to specialize in the design of private dwellings, will inspect the best examples of small and large houses either finished or under construction in the suburbs.

Under Prof. C. A. Harriman, a course in the elements of architectural design will embrace a systematic study of the classic orders, mouldings, doors, windows, balustrades, pediments, and so on. Sketches and photographs of actual examples used in city buildings will be made by each student, and carefully drawn plates of classic details will be required.

Prof. G. M. Allen will give courses in shades and shadows, perspective, and in elementary architectural drafting, involving visits to the large architectural offices of New York.

Six courses in freehand drawing for architects are also planned. They include elementary freehand drawing, pencil drawing, charcoal drawing, advanced pencil drawing, outdoor water color drawing, and charcoal and life drawing. The instructors in this group are Prof. C. A. Harriman and Joseph Lauber.

SUMMER COURSES AT CARNEGIE TECH.

DR. JAMES C. MOREHEAD, associate professor and curator, and Professor Camille E. Grapin, of the Department of Architecture, will be in charge of the summer courses in architecture to be given this year at the Carnegie Institute of Technology in Pittsburgh. The program of summer work, which includes courses in architectural design, outdoor sketching, descriptive geometry, shades and shadows, perspective, and trigonometry, will be conducted between June 17 and July 26.

The summer courses in architecture, it is announced, are intended primarily for draftsmen from architects' offices who desire to supplement their office experience by school training and for students who desire to continue their work in architecture in the vacation.



EDGAR F. BIRCSAK

EDGAR F. BIRCSAK, winner of the A. W. Brown Travelling Scholarship Competition for 1929, was born in Detroit, Michigan, in 1898. He started his architectural training in Kansas City, Missouri, where he attended school and worked in the offices of various architects including that of Ben J. Lubschez. He is a graduate of the University of Kansas and in 1922 won the A.I.A. Scholarship Medal there. For the past few years he has been working in New York and has worked for H. Van Buren Magonigle for two years. He is now with Dennison and Hirons, where he has been employed for the past two years. While he was acting as Massier of the Atelier Hirons in 1928, his training was greatly influenced by Mr. F. C. Hirons.

Mr. Bircsak's winning design for the *Lindbergh Flight Memorial and Exhibition Hall* was published in the May issue of PENCIL POINTS.

COLUMBIA-PRINCETON-YALE COLLABORATIVE PROBLEM

THE ARCHITECTURAL SCHOOLS of Columbia, Yale, and Princeton recently completed a student competition in advanced and intermediate design. Ten students were selected from each school to submit drawings. The work covered a period of five weeks and the final drawings were judged at Columbia by a Jury consisting of Harvey W. Corbett, William Lamb, Charles Platt, Egerton Swartwout, and D. Everett Waid. The schools were represented as follows: Columbia—William A. Boring; Princeton—Sherley W. Morgan; Yale—Professor Faelton (in place of Everett V. Meeks who was absent because of illness). Some of the premiated designs are reproduced on pages 418-421. The values given correspond to those of the Beaux-Arts Institute of Design.

The Problem in Advanced Architectural Design was for *A Municipal Courthouse*. The Program stated that:

"A city of some 200,000 inhabitants finds it necessary to provide new, adequate and well-planned accommodation for the various municipal courts. To do this it has been deemed advisable to erect a special and separate building adjacent to the City Hall and to the Municipal Office Building, thus forming a municipal group of dignity and character.

"Five court rooms are called for, with the necessary services and accompanying rooms arranged in the most convenient manner to transact effectively and expeditiously the legal business of the city. Of these five court rooms there will be one of smaller dimensions for the Probate Court; and four larger court rooms, two for criminal cases, and two for civil cases. In connection with the criminal side the planning for the handling of prisoners by the police is an important factor. It is suggested that a basement entrance be arranged for the prisoners' van and that the prisoners' 'pen' and cells be so placed in the basement as to connect directly by stairs or ramp with the criminal court rooms.

"The court rooms being of considerable area, provision should be made in the plan for adequate height. The possibility of mezzanines for certain of the lesser rooms of the building is therefore suggested, but is in no way mandatory.

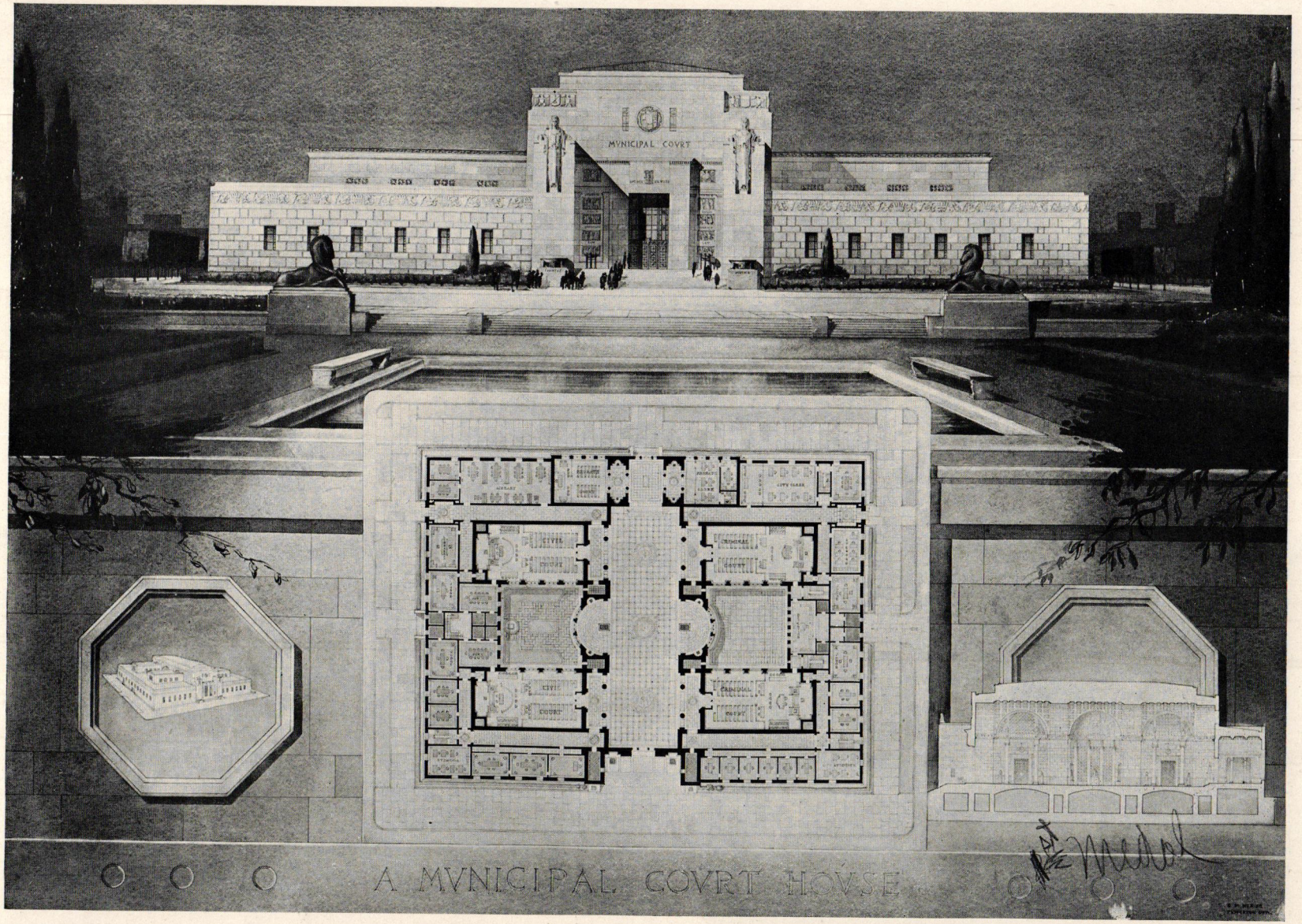
"In type of architecture the character of a dignified public building is indicated. A spacious lobby or lobbies must be provided at the entrance to the various courts. Much minor business is carried on in such lobbies, particularly in the nature of short conferences while waiting for cases to be called. There is also much going to and fro, so that ample public space is necessary."

The Problem in Junior Architectural Design was for *An Historical Society Building*. The Program stated:

"A citizen of one of the smaller American cities has donated an important sum of money to build and endow a building for the local Historical Society. This Society has been in existence for a long time and due to this fact, as well as to the local pride of the community, a quantity of interesting historical material, consisting of both documents and objects, such as textiles, glass, pewter, silver, costumes and furniture, has been amassed. This has made the provision of a suitable building highly desirable. The proposed building should be dignified and monumental in character to comport with the other important public buildings nearby, which are of a substantial and dignified type of architecture, thus forming an harmonious municipal group.

"The principal buildings of the town cluster around a central broad street or square. At the head of this square two streets branch off at 30° to the axis of the square. It is on this axis and between these two streets that the Historical Society Building is to be erected. The property, therefore, is a regular symmetrical trapezium with the shorter of the parallel sides facing the end of the square. This side has a frontage of 120′. The rear line of the property is parallel to this shorter front line and is situated back 200′ making the property 120′ wide on the front, 200′ deep and approximately 350′ wide in the rear. Along this rear runs a secondary street.

"The proposed building is to be two stories and basement high."



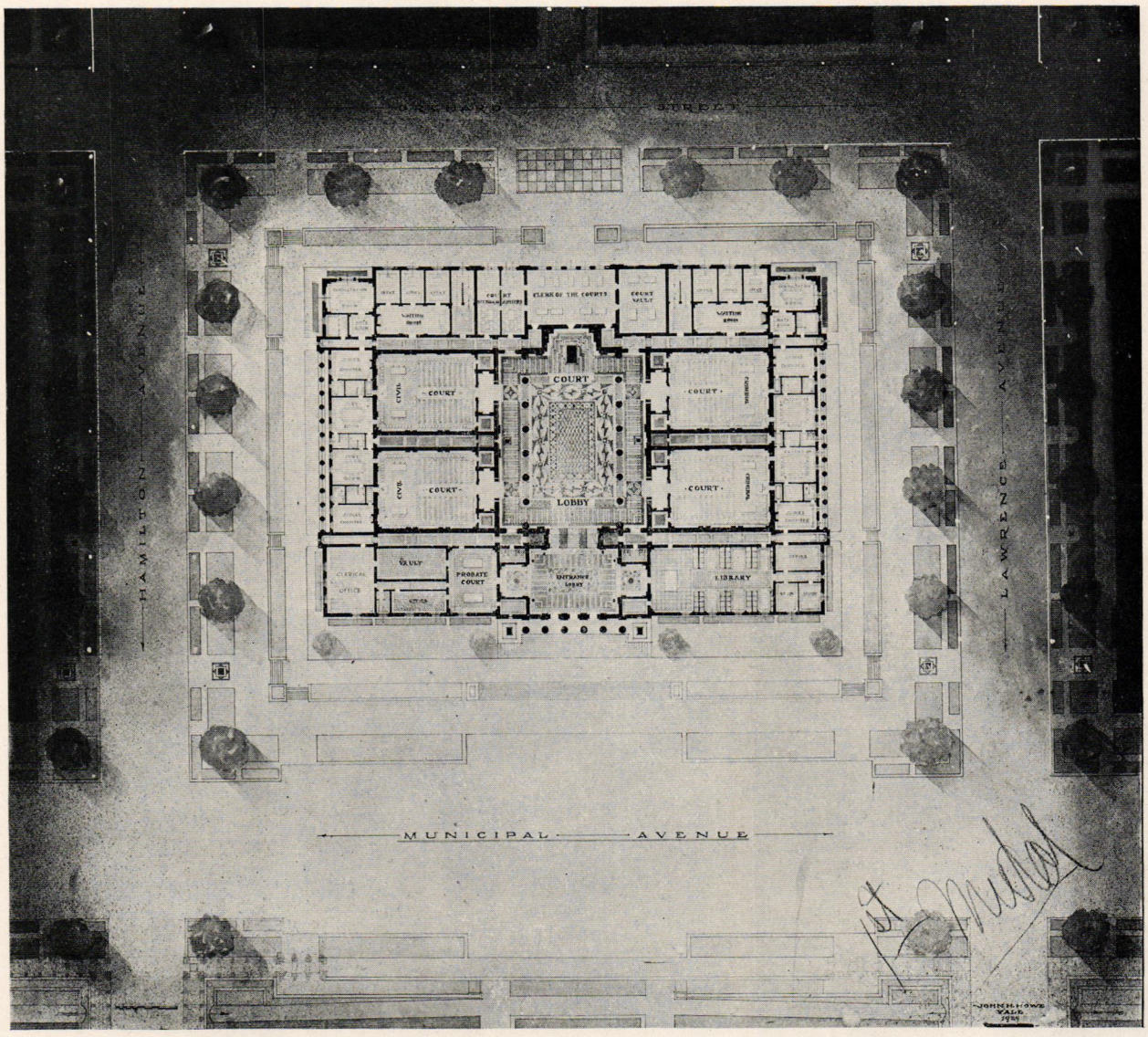
1ST MEDAL—DESIGN FOR A MUNICIPAL COURTHOUSE BY C. M. NES, JR., PRINCETON UNIVERSITY

COLUMBIA-PRINCETON-YALE COLLABORATIVE PROBLEM IN SENIOR ARCHITECTURAL DESIGN

(See text on page 417)



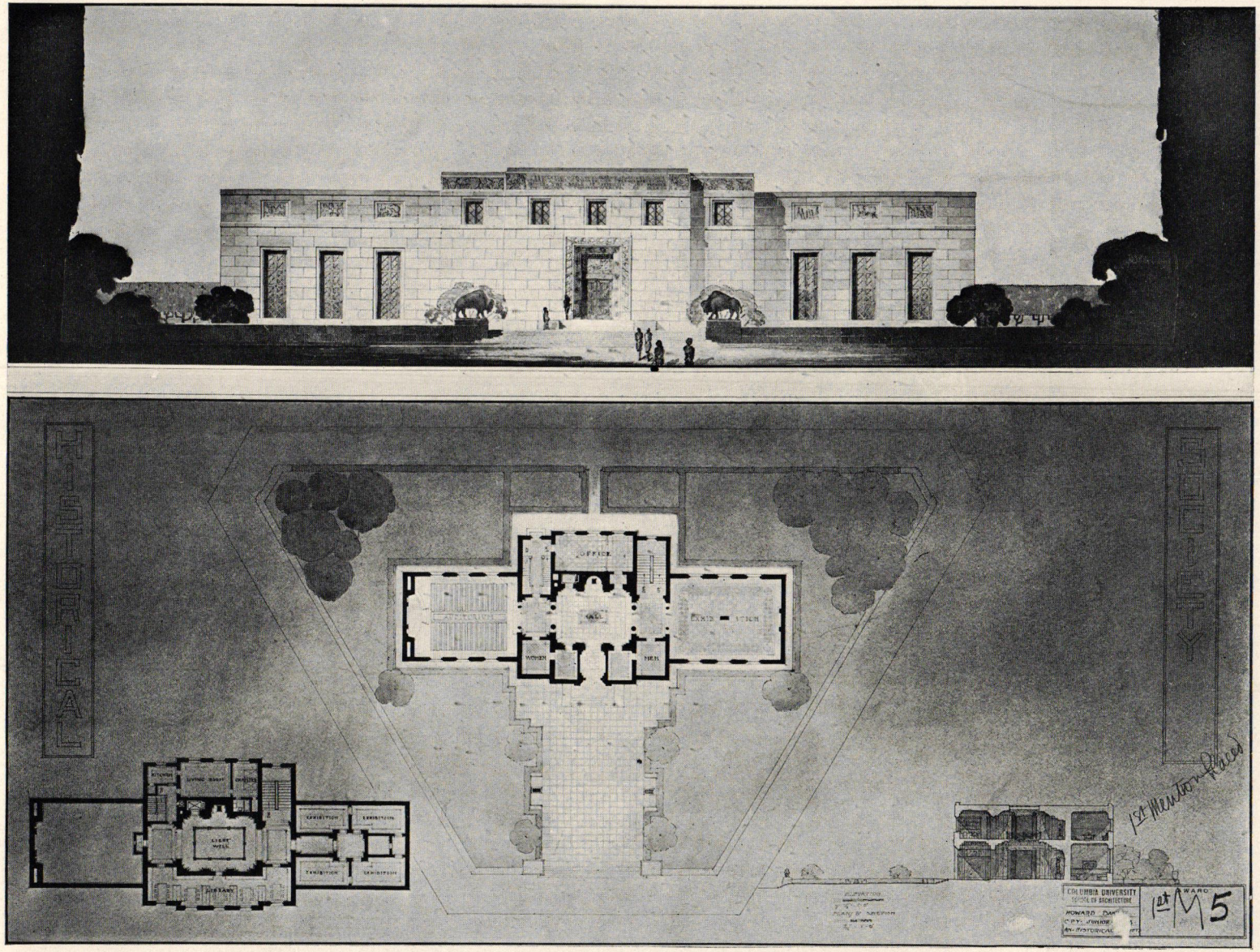
Elevation



1ST MEDAL—DESIGN FOR A MUNICIPAL COURTHOUSE BY JOHN H. HOWE, YALE UNIVERSITY

COLUMBIA-PRINCETON-YALE COLLABORATIVE PROBLEM IN SENIOR ARCHITECTURAL DESIGN

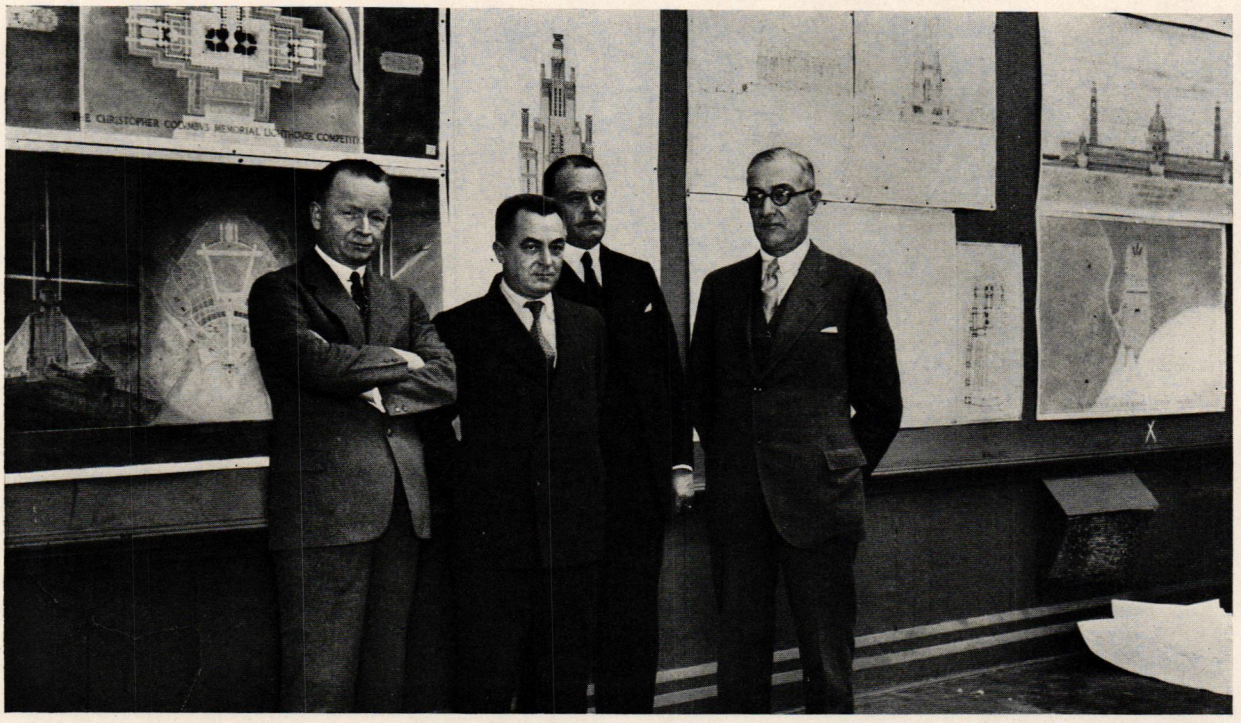
(See text on page 417)



1ST MENTION PLACED—DESIGN FOR AN HISTORICAL SOCIETY, BY HOWARD BAHR, COLUMBIA UNIVERSITY

COLUMBIA-PRINCETON-YALE COLLABORATIVE PROBLEM IN JUNIOR ARCHITECTURAL DESIGN

(See text on page 417)



THE INTERNATIONAL JURY OF AWARD IN THE COLUMBUS MEMORIAL LIGHTHOUSE COMPETITION

AT THE JUDGMENT OF THE PRELIMINARY COMPETITION HELD IN MADRID

Left to right: Eliel Saarinen, of Finland, Delegate for Europe; Raymond M. Hood, Delegate for North America; Albert Kelsey, Technical Adviser; Horacio Acosta y Lara, Chairman.

COMPETITION FOR THE COLUMBUS MEMORIAL LIGHTHOUSE

ALBERT KELSEY, Technical Adviser of the Competition for the Columbus Memorial Lighthouse, has sent us a letter from Madrid which gives a report on the preliminary competition. From his letter we quote the following:

"It was a most remarkable competition, having brought out no less than 451 sets of drawings from over forty countries. Generalizing, there were a hundred good designs and fifty that are truly distinguished. But what is most remarkable about the showing is the different points of view of architects from different countries. For example a very serious effort was made by the twenty-one competitors from Soviet Russia. Some extraordinary designs have come from Germany, Holland and Scandinavia, while many from France, Italy and Spain showed great originality. Perhaps the finest renderings came from the United States.

"Of the twenty prizes, fourteen went to Europe and six to the United States.

"The final Contest will be judged at Rio de Janeiro. In the meantime I have started work on the Second Program, which I hope to make a handsomer and a more beautiful volume than the First.

"Of the ten first prize designs, I can only say that nine of them are conceived on totally different lines. Each is capable of a splendid development, so I feel confident that the next contest will be a noble one."

Report of the International Jury on the Columbus Memorial Lighthouse.

This problem is the search for a symbol to express those basic qualities that make the discovery of the Americas by Columbus one of the great events in the history of the world. The influence that the discovery has had in the development of civilization is so vast, its significance is so tremendous, that a monument commemorating it must be one that grips the imagination, one whose appeal is to all time and to all people. Its message must be to the spirit. It must typify that timeless quality that is a part of every great human event. It must typify the strength, vision and courage of the man, the instrument through whom it was accomplished. Its conception, its form, its mass can only be simple, direct and powerful. Its architectural qualities must be strength, stability and durability, and it must speak not in the language of our time, and of our race alone, for it must be a memorial that can bridge the centuries and whose appeal is universal.

The site is worthy of its purpose. On the island where Columbus landed, it faces a river and the sea across which he came. Its geographical location is such that it is destined to become a great crossroad for the world's travel by sea and by air. It is a setting peculiarly appropriate for a memorial to an achievement of such a universal appeal.

The Jury bases its judgment in this Competition on the foregoing considerations. Realizing that the preliminary Competition is a search for an idea, it has chosen those projects that have the promise and possibility of development into a great conception in the final competition, rather than those that have a perfection of study. The selection of the ten competitors for the final competition is as follows, the order of the names being in accordance with the order of the reception of the drawings:

Josef Wentzler, Dortmund, Germany; Will Rice Amon, New York, U. S. A.; Helmle, Corbett and Harrison, Robert P. Rodgers and Alfred E. Poor, W. K. Oltarjevsky, New York, U. S. A.; Douglas D. Ellington, Asheville, North Carolina, U. S. A.; Prof. Pippo Medori, Ing.

Vincenzo Palleri, Geom. Aldo Vercelloni, Rome, Italy; Louis Berthin, Georges Doyon, Georges Nesteroff, Paris, France; Donald Nelson and Edgar Lynch, Paris, France, and Chicago, Illinois; Joaquin Vaquero Palacios, Luis Moya Blanco, Madrid, Spain; Theo. Lescher, Paul Andrien, Georges Défontaine, Maurice Gauthier, Paris, France; and J. L. Gleave, Nottingham, England.

The Jury has further awarded ten honorable mentions to the ten projects next in merit to the ten selected for the final competition. In the order of their reception they are as follows:

John Thomas Grisdale, Philadelphia, Penn., U. S. A.; Professor Norris I. Crandall, Donald C. Kline, George H. Riggs, Jr., Washington, D. C., U. S. A.; Nicolas Lanceray, Leningrad, U. S. S. R.; Abram Garfield, Cleveland, Ohio, U. S. A.; Nicholas Vassilieve, U. S. S. R.; Enrico Miniati, Giovanni Masini, Florence, Italy; Kamil Roskos, Prague, Czechoslovakia; Maurice Gogois, C. A. Dory, Associé, Amiens, France; Roger Kohn, Paris, France; Jean Szelechowski, Marcel Janin, Neuilly-sur-Seine, France.

The Jury is convinced that the exposition and publication of the ten projects selected for the final Competition would work to the great disadvantage of the final result as it would create an atmosphere in which the creative spirit of the designer could not develop itself freely. The Jury therefore has proposed, and the Technical Adviser has concurred in not exhibiting these drawings, and in their immediate return to their respective authors.

Respectfully submitted.

Jury of Award { Eliel Saarinen, Raymond Hood, Horacio Acosta y Lara, *Chairman.*

THE PASADENA ARCHITECTURAL CLUB

About sixty members and guests were present at the second annual banquet of the Pasadena Architectural Club held at the Pasadena Athletic Club, Friday evening, May 10th. The Entertainment Committee provided a large and varied form of entertainment in the form of speeches by various members; songs were rendered by several of the Club members. Gene Brook and Mary Barth, of the Collenette School of Dancing, presented several splendid dancing numbers. They were accompanied by Genevieve Wiley.

Reports were given by Roy Parkes, President; Richard Ware, Secretary; Wm. S. Buyers, Treasurer; Wm. J. Stone, Publicity; and O. F. Stone, Education.

This was followed by the installation of the new officers, as follows: Robert Stanton, President; Harry A. Schoeppe, Vice-President; Richard Ware, Secretary and Mark Ellsworth, Treasurer. O. F. Stone, Wm. S. Buyers, and J. R. Jarvis were elected members of the Executive Committee.

SUMMER SKETCH CLASS TO BE HELD AT LA ROCHELLE, FRANCE

Edgar Lander will hold a Sketching Class at the picturesque old town of La Rochelle, France. Instruction will be given in Painting, Oils and Water Color, Etching, Drypoint and Aquatint. There will be a Studio and Etching Press provided for the use of the Class.

Good hotel accommodation in convenient situation can be had from thirty to sixty francs daily. Fees for instruction £5 monthly, payable in advance; classes commence on July 1, 1929. For further information apply to Mr. Lander, 92, Clifton Hill, London, N.W.8, England.

PHILADELPHIA ARCHITECTS' BASEBALL LEAGUE

The second season of the Philadelphia Architects' Baseball League opened Tuesday, April 30th. The Philadelphia Architects' offices which are represented in this league are Ritter & Shay, Chas. Z. Klauder, John T. Windrim, Simon and Simon, the Board of Education, and the Ballinger Company.

Much interest and enthusiasm were shown last year and a great race is expected for this season. The games are played at the field of the Brookline Square Club, Brookline, Pa., every Tuesday, Wednesday, and Thursday at 6:15 o'clock.

The winner of last year's race was Ritter & Shay; at the end of this year's season the winner of the Philadelphia Architects' League will play the winner of the New York City Architects' League.

The officers for the ensuing year are M. M. Dryer, *President*, Wm. J. Rankin, *Treasurer*, and J. E. Doan, Jr., *Secretary*.

Standing of League:

Team	*Won*	*Lost*	*Points*
Board of Education	2	0	4
Simon & Simon	2	0	4
Ritter & Shay	1	0	2
Ballinger Company	0	1	0
Chas. Z. Klauder	0	2	0
John T. Windrim	0	2	0

TENNIS ENTHUSIASTS

Once again the New York Architectural Club announces the opening of the Annual Tennis Tournament. This, the fifth tournament, will be featured by the second trophy presented by Mr. William Adams Delano, of Delano & Aldrich. This trophy is to be played for each year until such time as it is in permanent possession of the contestant winning the tournament three times. Prizes to finalists and semi-finalists in the form of architectural books or medals as heretofore, will be determined by the number of contestants and success of the tournament.

To further contact among men of the profession a consolation tournament in connection with the singles, and a doubles tournament is contemplated. The tournament will start about the middle of June; the finals to be played on the estate of William Adams Delano at Syosset the latter part of August.

All men in the employ of architects, students of architecture and allied arts men are eligible to compete. Entry fees are $2.00 per man in the singles tournament—with the privilege of playing in the consolation if losing the first round match,—and $3.00 per team in the doubles tournament. Entries are now being received by Henry M. Barone, Chairman Tennis Tournament, New York Architectural Club, 118 East 42nd St., New York. Send entry fee together with home address, and the name, address and telephone number of your employer. The success of this venture depends on your willingness to cooperate.

The New York Architectural Club, Inc.

CINCINNATI ARCHITECTURAL SOCIETY

The Cincinnati Architectural Society scored a huge success with a most delightful dinner party on May 7, 1929, which marked the conclusion of regular monthly business meetings for the summer. On Saturday, May 25, the Society played ball at the annual picnic, at the Pines.

During the summer the weekly sketch class will be continued as a part of the educational program.

SOUTHERN ARCHITECTURAL AND INDUSTRIAL ARTS EXPOSITION

THE SOUTHERN CHAPTERS of the American Institute of Architects are now engaged in developing plans for an Architectural and Industrial Arts Exposition, which is to be held in Memphis, Tennessee, from November 9th to 16th of this year. The arrangements are in charge of a Committee consisting of M. H. Furbringer, Chairman, of Memphis, Tennessee; Hal Hentz of Atlanta, Georgia; Solis Seiferth of New Orleans; and E. R. Denmark, Editor of the *Southern Architect and Building News* of Atlanta. Further details will be given in a later issue of PENCIL POINTS.

PRATT ARCHITECTURAL CLUB

"BIGGER AND BETTER" was the verdict rendered by over one hundred members of the Pratt Architectural Club, of the fourth annual banquet, held May first, at the Fraternity Clubs Building, 38th Street, New York City.

Everyone agreed that the main subject of the evening which was brought out by George S. Chappell, known as Dr. Traprock, was a complete knockout. Charles Pratt, grandson of the founder of Pratt Institute and Secretary of the Board of Trustees, told us some of the future plans of the Institute. Every one of his words went straight to the heart. Walter Scott Perry, the former Director of the School of Fine and Applied Arts at the Institute took us to the Mediterranean and back. If time had permitted, no doubt we would have reached the Taj. Even Daddy Eddy gave us a few things to consider. Frank Price laid off his latest and best but instead reported on the student who had made the best all-round development and whom the faculty recommended for the Pratt Architectural Club Scholarship. This was awarded by President Cole to Leslie Jacobsen.

William H. Gompert acted as toastmaster and master of ceremonies. That place at the head of the table was never handled better. Alfred D. Cole, retiring President of the Club, reviewed the activities of the organization for the past year and the Club responded by singing "For He's a Jolly Good Fellow."

Otto Gette, one-half of the first graduating class at the Institute, gave a very interesting history of the early days of the Institute. He is still practicing architecture and loves it more every day.

The following officers were elected: Daniel O. Larsen, president; George W. Axt, first vice-president; Harrison Wilson, second vice-president; J. H. Amiral, secretary; Frank E. Ward, treasurer; Burton F. Hall, assistant secretary; and Harold H. Bulmer, assistant treasurer. Governors elected for a term of three years were William H. Gompert, Arthur B. Lincoln and Eugene Childs. Edmund W. Higgs was chairman of the nominating committee.

The new president responded and said there was no reason why, before the end of this year, the Club would not have at least five hundred members and a permanent place for the Club's quarters.

Every Pratt architect who has spent one full year at the Institute is eligible for membership and should join the Club. It is a fine place to become acquainted with fellows who are really making things go. The Club needs you and you need the Club. Mailing address: Pratt Architectural Club, 22 East 38th Street, New York.

MARCEL CHAPPEY



MARCEL CHAPPEY, the winner of the Third Annual French Travelling Fellowship of the American Institute of Architects, was born in Paris in 1896. During the war from 1914 to 1918 he was in the 44th Regiment of Artillery. He was decorated with the *Croix de Guerre* and *Medaille Militaire*. In July 1918 he entered the Ecole des Beaux Arts and was a student in the Atelier Héraud. In 1922 he received the *Diplômé* of the French Government and has been awarded innumerable student prizes in competitions at the Ecole; his work has also won many medals for him at various exhibitions.

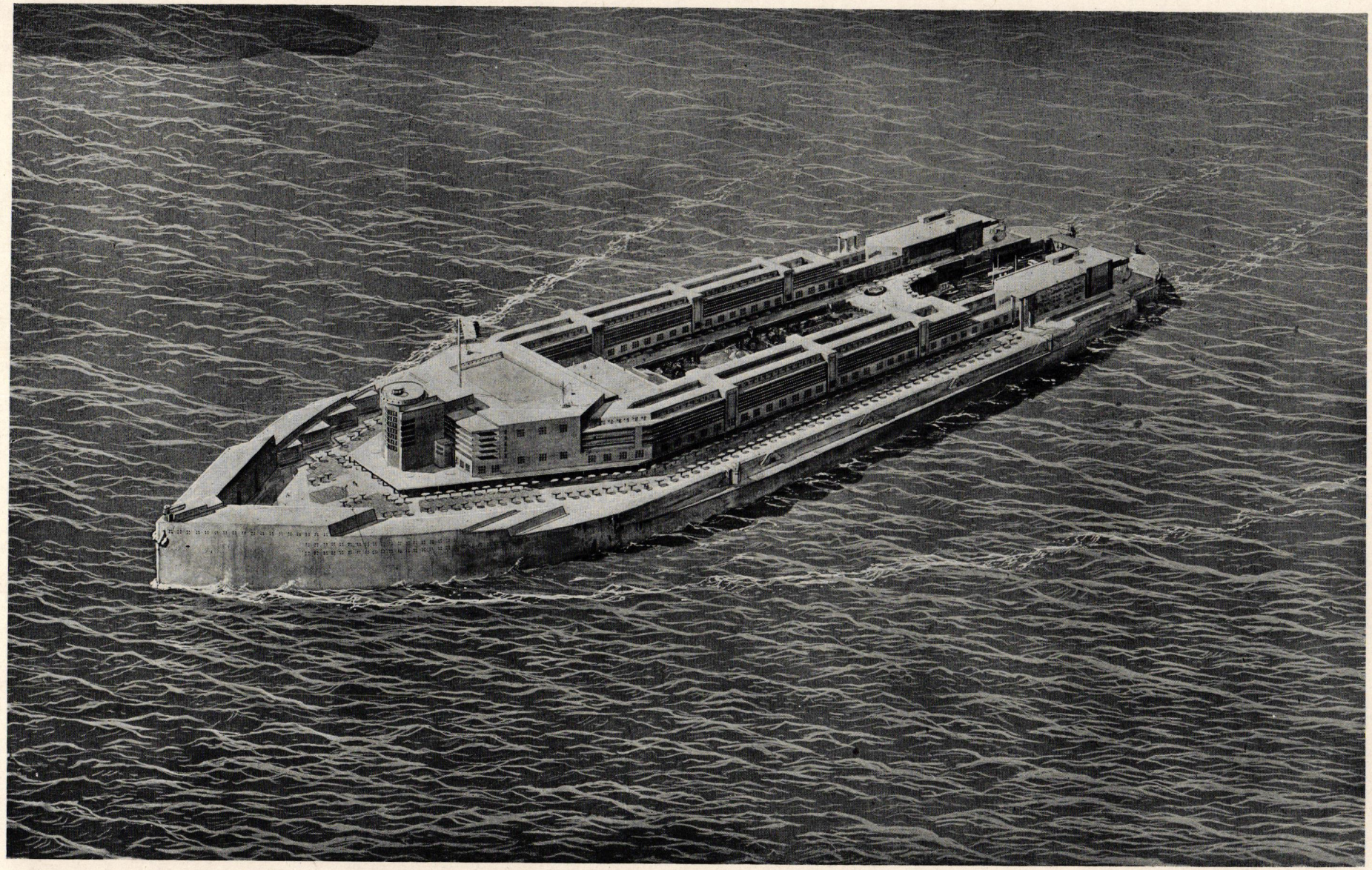
At the present time he is in New York to study American Architecture. He plans to remain in the United States for some time and will visit the large cities in this country. His drawings for a "travelling exposition boat" are reproduced on the pages following.

"A TRAVELLING EXPOSITION BOAT"

THE DRAWINGS by M. Marcel Chappey shown on pages 426 through 429 are for a seaworthy ship that will carry an exposition to foreign ports of the sculpture, paintings, architecture, murals, and so on, of French artists. It is the designer's idea that this boat would visit various ports throughout the world to spread a knowledge of French Industries, Arts, and Sciences in foreign countries. The plan reproduced on page 427 shows that a portion of the vessel would be devoted to space for the exhibitions, small shops, and so on. A modern hotel is included, equipped with all conveniences for the comfort of the passengers and visitors to the ship. The boat would be built entirely of metal, and the size and shape are such that feeling of the movement of the sea would be reduced to a minimum and the passengers would feel practically no pitching or rolling. This feature would contribute greatly to the comfort of all on board. Aft is shown a landing place for visitors' small boats or hydroplanes that would come to the vessel while it was at anchor in the harbor of a foreign city. On the high seas this inlet would be closed and used as a swimming pool for the passengers. The central garden feature has space for tennis courts; a casino is also provided for the entertainment of the voyagers. Brilliant searchlights are placed at vantage points on the main deck and these when lighted at night would give a most brilliant effect.

In working out his design M. Chappey consulted a naval architect in Paris to be sure that the construction of this boat would be possible.

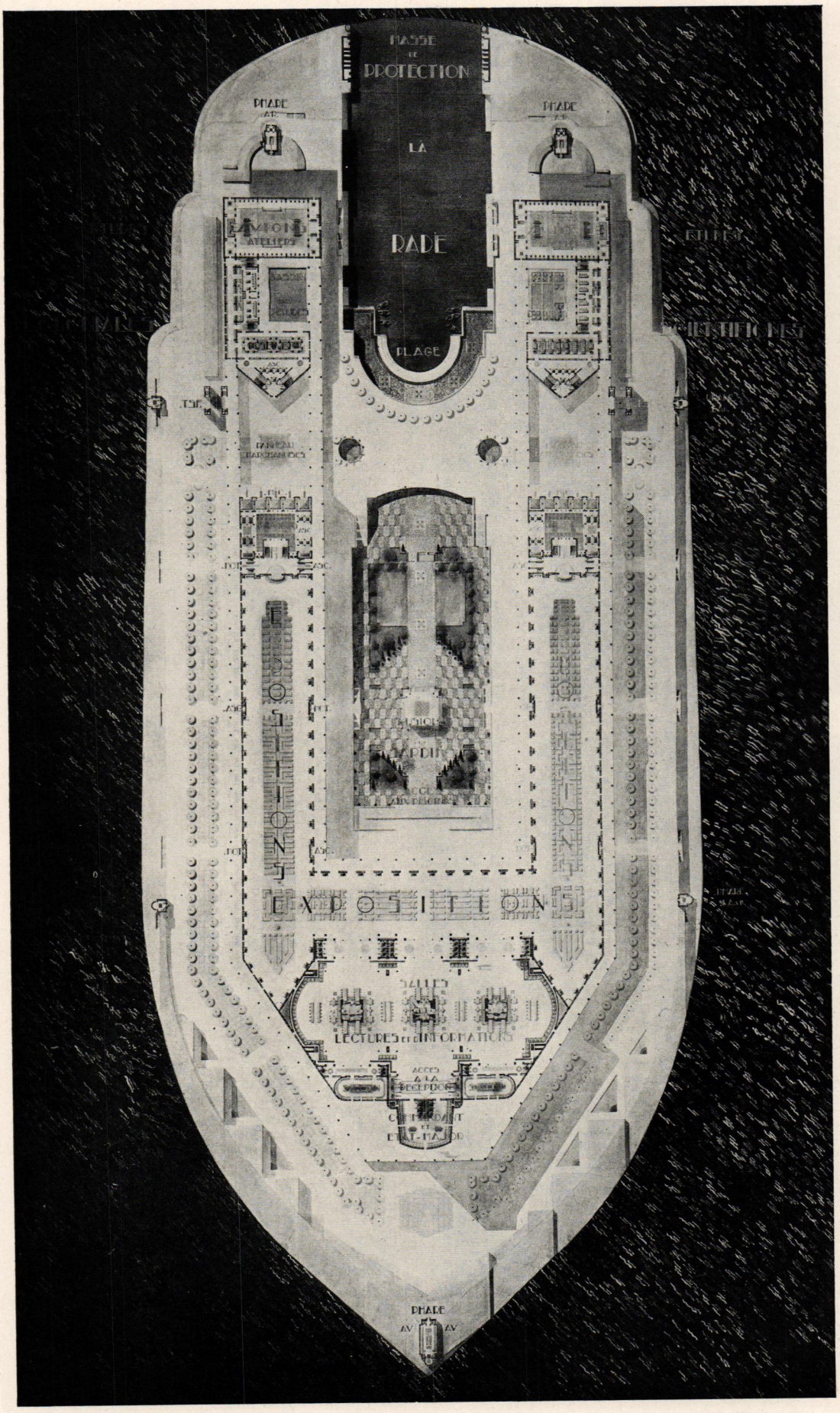
These drawings were awarded the *Prix Chenevard* at the Ecole des Beaux Arts this year.



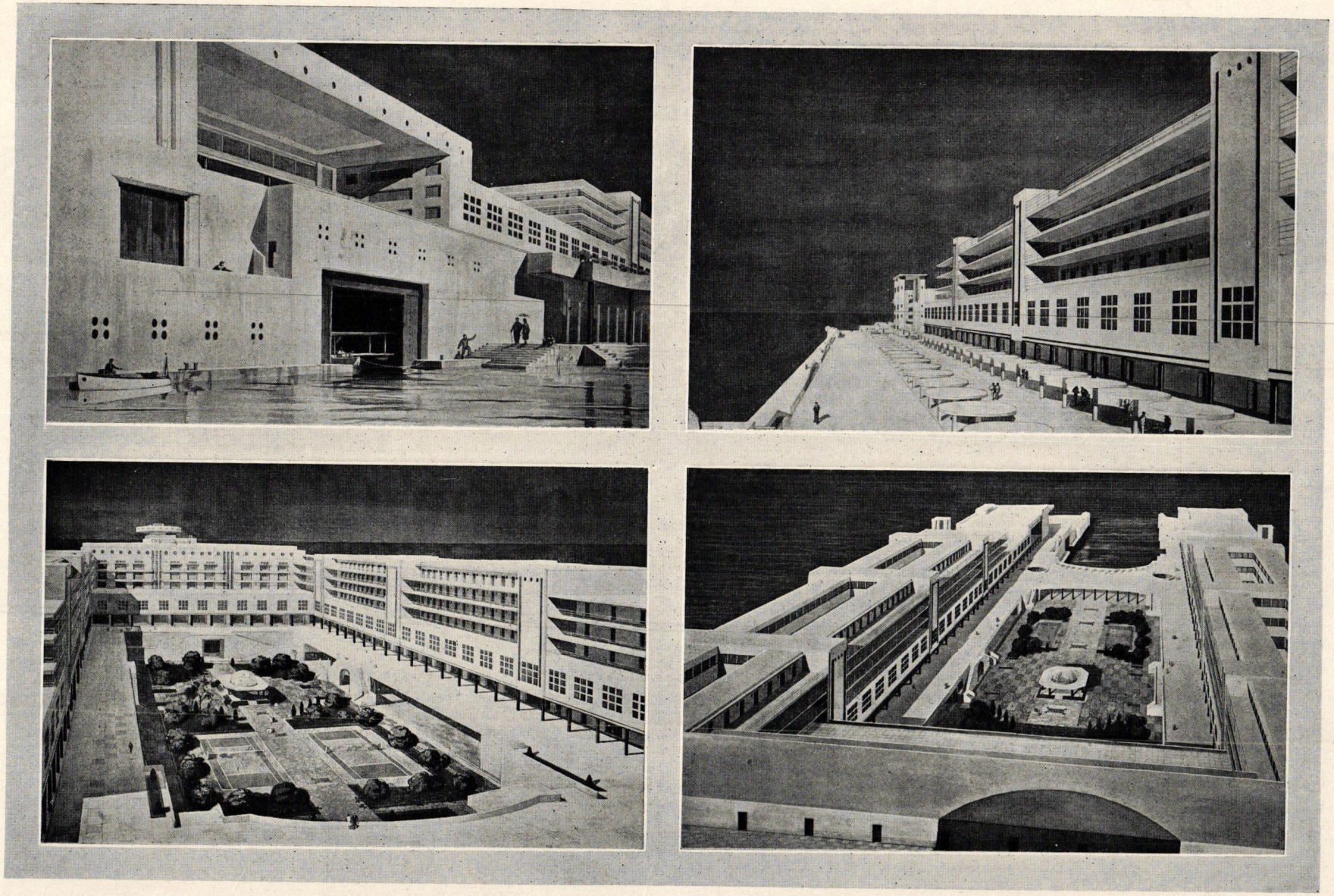
"A TRAVELLING EXPOSITION BOAT," DESIGNED BY MARCEL CHAPPEY

FIRST PRIZE "CONCOURS CHENEVARD," ECOLE DES BEAUX ARTS, 1929

(See text on page 425)



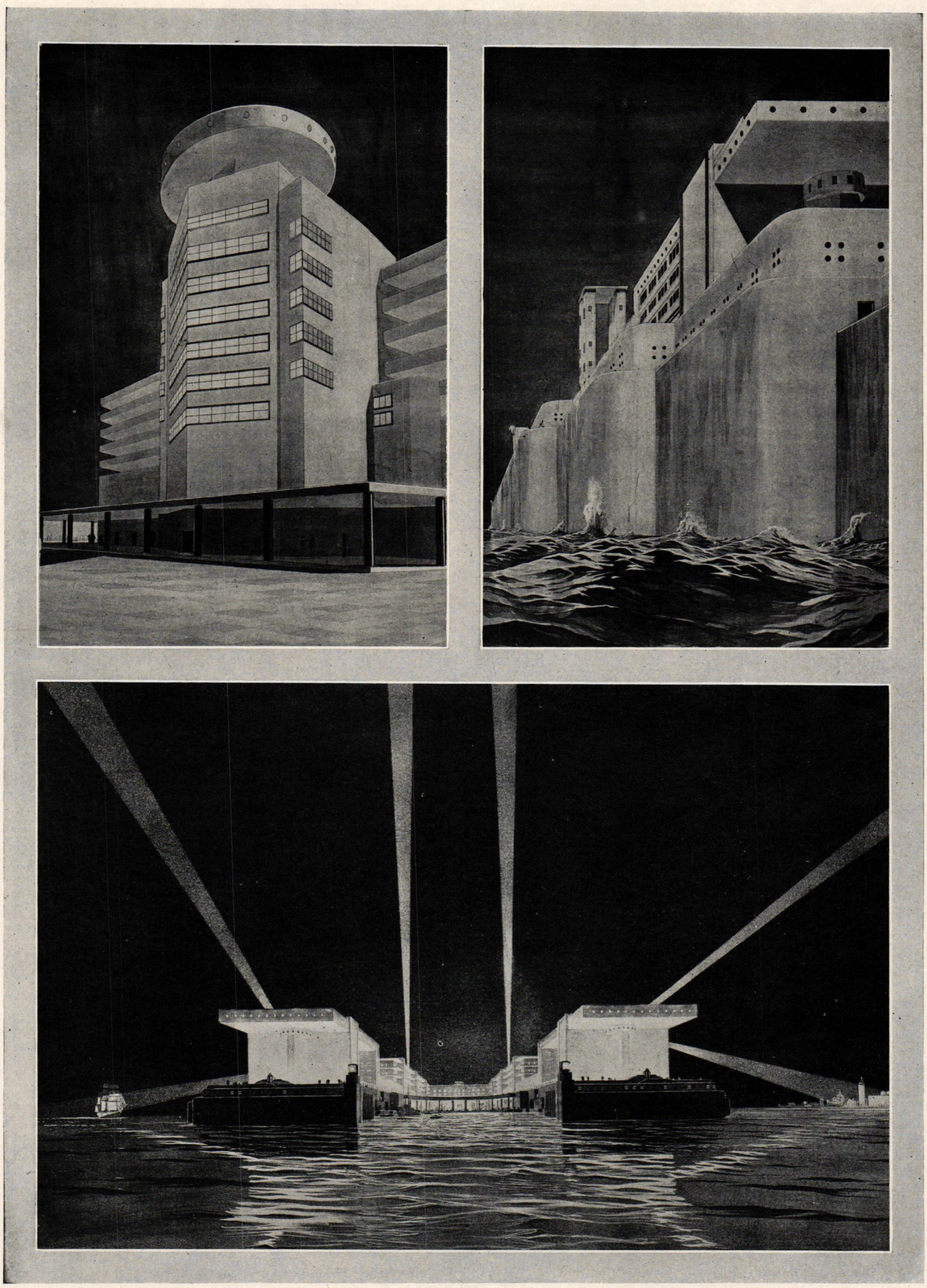
PLAN OF DESIGN FOR "A TRAVELLING EXPOSITION BOAT," BY MARCEL CHAPPEY
FIRST PRIZE "CONCOURS CHENEVARD," ECOLE DES BEAUX ARTS, 1929
(See text on page 425)



DRAWINGS BY MARCEL CHAPPEY OF HIS DESIGN FOR "A TRAVELLING EXPOSITION BOAT"

FIRST PRIZE "CONCOURS CHENEVARD," ECOLE DES BEAUX ARTS, 1929

(See text on page 425)



PERSPECTIVES OF THE DESIGN FOR "A TRAVELLING EXPOSITION BOAT," DRAWN BY MARCEL CHAPPEY
FIRST PRIZE "CONCOURS CHENEVARD," ECOLE DES BEAUX ARTS, 1929

(See text on page 425)



This department conducts four competitions each month. A prize of $10.00 is awarded in each class as follows: Class 1, sketches or drawings in any medium; Class 2, poetry; Class 3, cartoons; Class 4, miscellaneous items not coming under the above headings. Everyone is eligible to enter material in any of these four divisions. Competitions close the twelfth of each month so that contributions for a forthcoming issue must be received by the twelfth of the month preceding the publication date in order to be eligible for that month's competition. Material received after the closing date is entered in the following month's competition.

THE WINNERS in the monthly competitions are as follows:
Class I—A. V. De Fonds of Rochester, N. Y.
Class II—Kenneth Cameron of Birkenhead, England
Class III—Gilbert Coddington of Columbus, Ohio
Class IV—Walter C. Sharp of Dallas, Texas

Mr. Sharp's contribution this month has inspired us with the idea of establishing a "good wrinkle" section of this department. A prize will be awarded each month for the best suggestion as to how the daily work in the drafting room may be simplified. We think Mr. Sharp has started us off in great shape and we shall welcome further contributions of this kind. Write down your helpful little hint and send it in to this department!

Now about our PENCIL POINTS BABY COMPETITION. This is perhaps the most important undertaking that has ever been attempted by this department. We want to see snapshots of all PENCIL POINTS babies between the ages of two and five years. The competition is open until five o'clock on Monday, June the 10th. For details and full information see page 355 of the May issue.

NEWS NOTE: Rumor has it that our one time contributor, Mr. John Richard Rowe, has bought a farm, just "forty-five minutes from Broadway" (?), in the northern part of Connecticut. We hope that this does not mean he is giving up his promising career and going in for raising rhubarb.

PRAYER TO THE ASSESSOR OF AN ARCHITECTURAL COMPETITION

By Kenneth Cameron, A.R.I.B.A.

(PRIZE—*Class Two—May Competition*)

O thou who wilt to one accord
The highest prize, the just reward;
Our hope when jobs are scarce!
To thee we now submit our scheme
And for fulfilment of our dream
Trust most are far, far worse.

With self-accusing voice within
Our conscience tells of one small sin,
The estimate is faked!
Let not your wrath on us descend
For what with ease we can amend
When in the job we've raked.

If thou reject us who shall give
Our fainting spirits strength to live?
'Tis thine alone to spare!
O may our plans be judged aright
And find acceptance in thy sight,
Be this our earnest prayer.

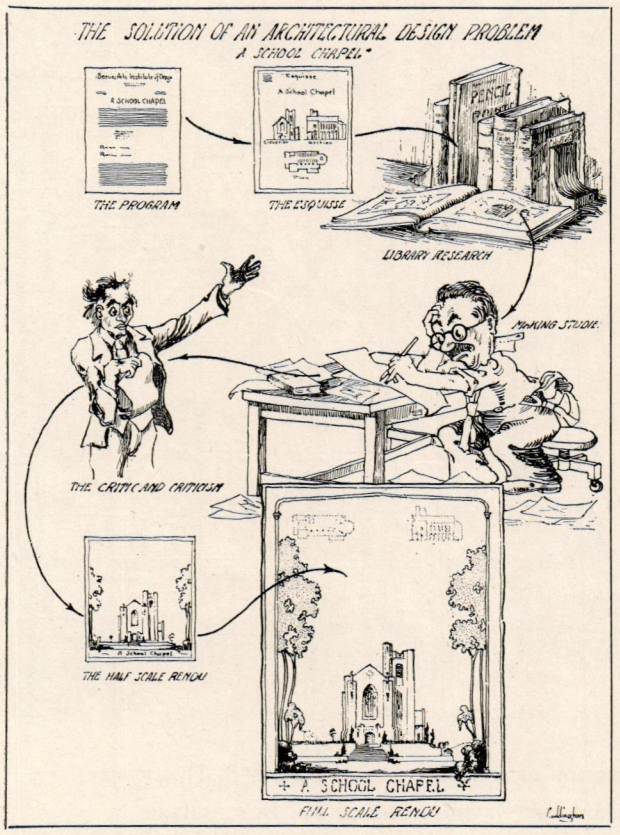


"OLD WATTS MILL AT DALLAS"—PENCIL SKETCH BY ARDERY V. DE FONDS
(PRIZE—*Class One—May Competition*)

FROM WHENCE THE BUTLER'S PANTRY?

By George Scott Gleason

THE BUTLER'S PANTRY OR BUTTERY is derived from the French *bouteille*, a bottle. In mediæval times it was the room where the wine bottles and other vessels were kept. The word butler (i.e. bottler) was the man in charge. Buttery, in colleges, formerly was a room where the liquors and refreshments were kept on sale for the students. Pantry (from the French *pain*, bread) was the room in which the bread, butter, cheese, platters, and so on, were kept. The Larder (Lardium) was the storeroom for the cook. The Buttery and Pantry were often at that time formed as one, hence the compound term Butler's Pantry. The Butler's Pantry, still in use in England as a room for the butler who has charge of the service of wine, is in the United States a small serving room adjoining the dining room for the storage and care of silver, fine china, etc. We are told that no servant was to be allowed to stay in the Buttery. He could have what he wanted, but was only to be served at the wicket door of the Buttery, and having drunk, he was to go. No strangers were admitted to the Buttery save those of good reputation. The Buttery door was only to be opened during certain hours. At a time when the intellectual recreations were almost absent, the pleasure of the table assumed large proportions and the consumption of food and drink was enormous. In this state of society where over-drinking and over-eating were of common occurrence, it was no wonder that the church included gluttony among the seven deadly sins.



"FLOW SHEET"—SUBJECT: A SCHOOL CHAPEL, BY GILBERT CODDINGTON, OF COLUMBUS, OHIO
(PRIZE—*Class Three—May Competition*)



A LITHOGRAPH PENCIL DRAWING BY LADDIE F. CERVENKA, OF LORAIN, OHIO
"Street in Baltimore, Maryland"

WALTER C. SHARP of Bryan and Sharp, Architects, Dallas, Texas, has sent us the following wrinkle for which he is awarded the PRIZE in *Class Four:*

Whenever it's desired to draw a series of equally spaced lines as, for instance, a stairs on a working drawing, the location of the first riser and the width of each tread being known, it can be done very conveniently, as follows:

From the known first riser, measure a distance in feet, to correspond with the width in inches of each tread. Divide this distance into 12 equal spaces. The width of each space will be the width of one tread. For instance; suppose the treads are to be 10½″ in width. From the known first riser, measure 10½′ (with the scale being used) and divide this 10½′ into 12 equal spaces in the customary way. Each of these equal spaces will scale 10½″ with the scale used.

This procedure is more accurate and quite a bit simpler than stepping off the spaces with the dividers.

The reason why these spaces are 10½″ wide is interesting:

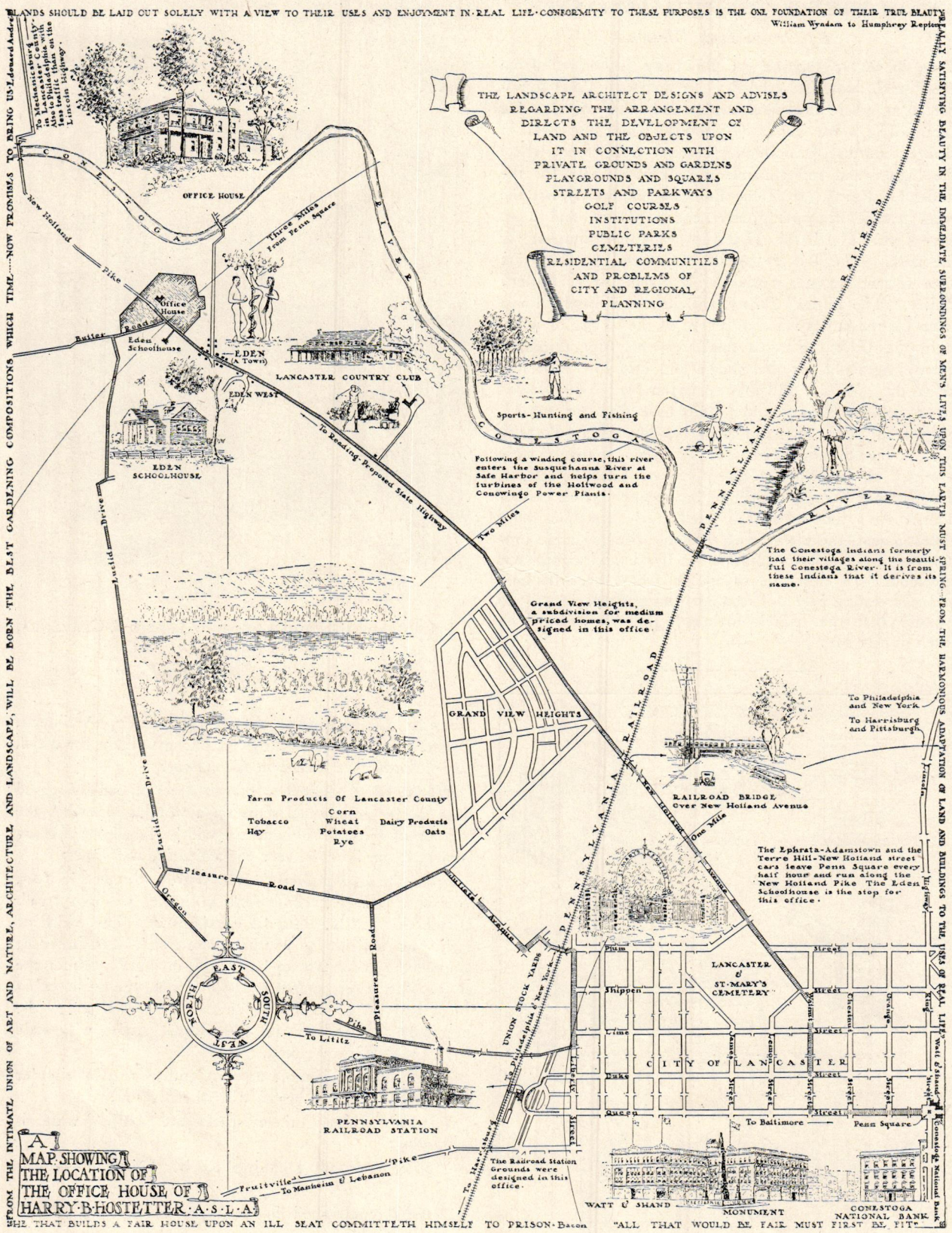
10½″ per tread multiplied by 12 treads—equals 126″.

10½′ multiplied by 12″ per foot—equals 126″, also.

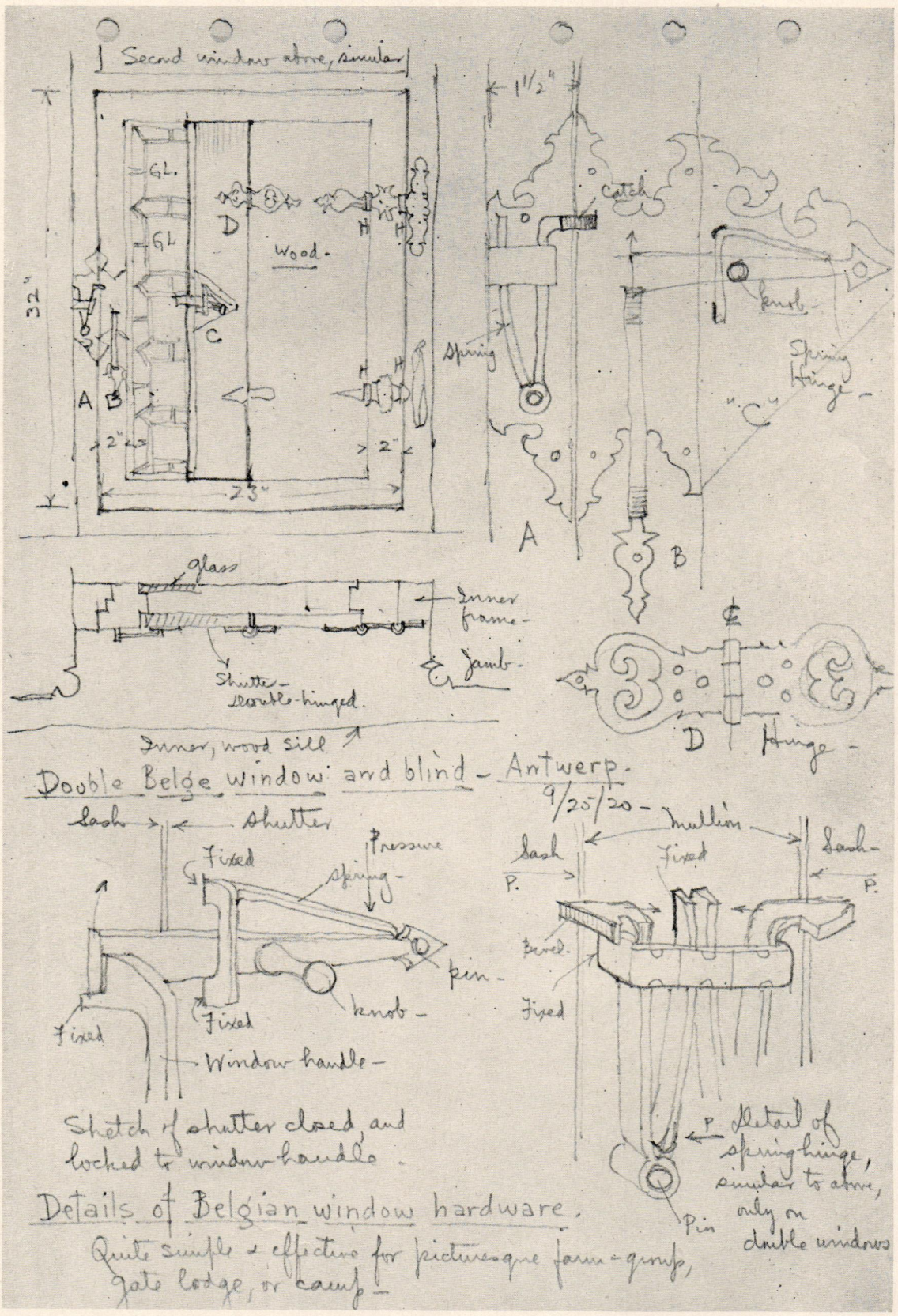
The method, of course, holds no matter what the width of the unit space, and can be applied in many problems. For instance:

7″ per riser multiplied by 12 risers—equals 84″, while—

7′ multiplied by 12″ per foot, also equals 84″.

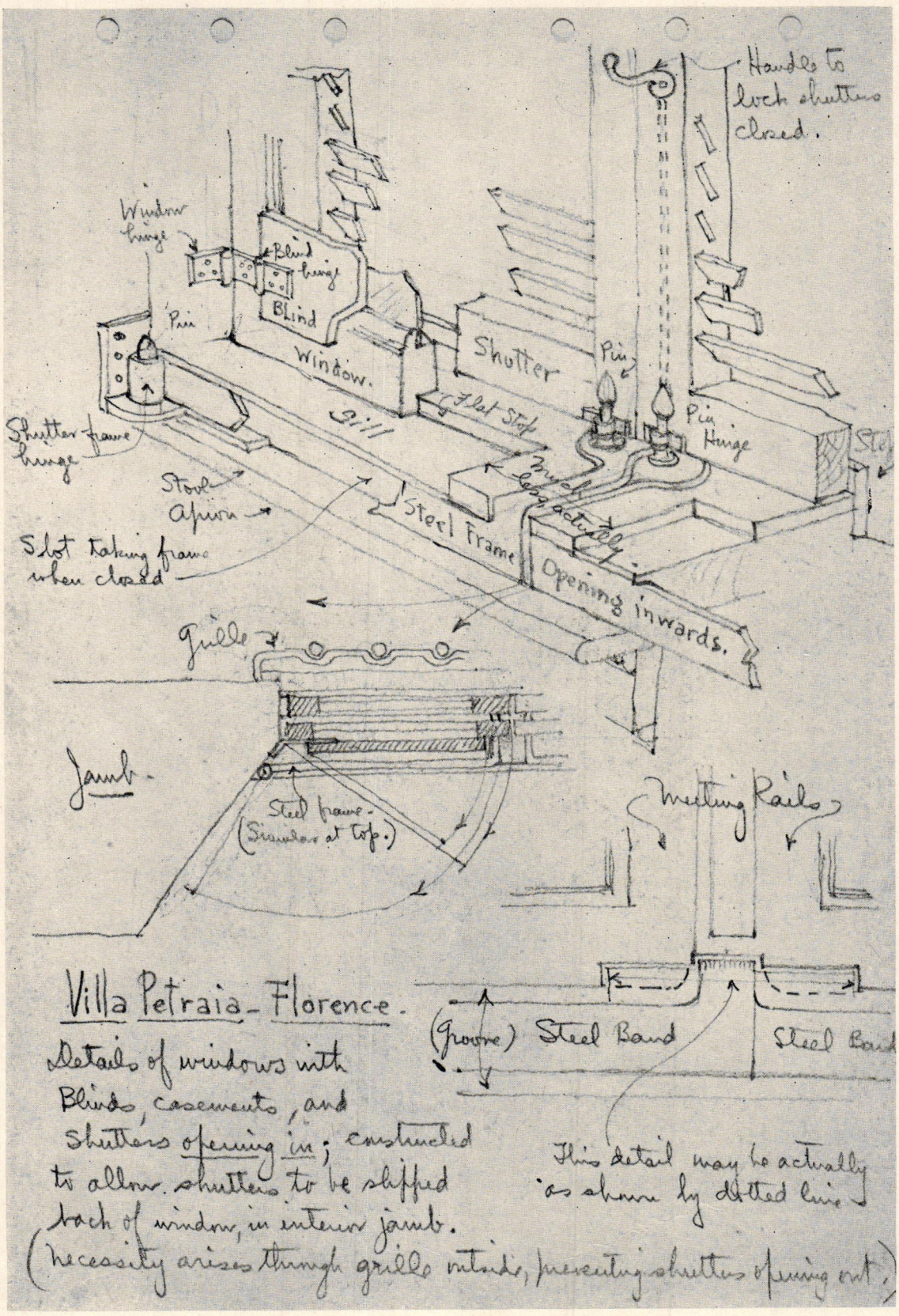


Map Drawn by A. A. Mulhoffer Showing the Location of the Office of Harry B. Hostetter, Landscape Architect, Designed to be Printed on the Reverse Side of His Letterhead



PAGE FROM THE TRAVEL NOTEBOOK OF GERALD LYNTON KAUFMAN

DETAILS OF BELGIAN WINDOW HARDWARE—A USEFUL TYPE OF WORKING NOTES FOR THE ARCHITECT



PAGE FROM THE TRAVEL NOTEBOOK OF GERALD LYNTON KAUFMAN

THE TRAVELING STUDENT OR DRAFTSMAN OFTEN MISSES OPPORTUNITIES TO COLLECT DATA LIKE THIS

THE SPECIFICATION DESK

A Department for the Specification Writer

AMERICAN AND BRITISH ARCHITECTURAL PRACTICE

By T. Sumner Smith

EDITOR'S NOTE: *We present here another article by T. Sumner Smith on the differences between American and British Architectural Practice. Mr. Smith is known as the author of* "Concise Costing for Houses," *and articles on housing, specifications, town planning, and so on. He is now practicing in Manchester, England, as a Building and Quantity Surveyor.*

WITH THE ADVENT of cheap paper began the deterioration of British architectural draftsmanship, finally ending with post-impressionism on the introduction of photo-process copying. Cheap paper and cheap photo-process copying have had a tonic effect in stimulating the production of drawings but the quality has not been maintained. Like wine imbibed too freely they have produced a muddled state. The demand for a greater number of drawings—for Borough Councils and the like, specialists and others—has made it next to impossible for architects in general practice to finish off their drawings. Again, greater call is made upon their time in a multiplicity of ways than was formerly the case.

It is the exception rather than the rule these days for an architect to dimension his working drawings fully; and detail drawings, even when supplied, are far from complete—a mere suggestion as to what is required.

Fortunately, the status of builders is now much higher; also their training and that of their foremen and craftsmen is on higher planes than was the case but a few years ago, which mitigates somewhat the defects of architects.

All these things and the employment of Quantity Surveyors have had a great influence on specifications. Probably 75% of building works are executed without a specification. Another matter which has made its influence felt on specifications is that anything up to 50% of the works may be executed by specialists, for which, in the majority of cases, specifications are not prepared by architects.

In order that the difference in practice between the two countries may be appreciated it is as well to state specifically how these several matters operate so that their bearing on specifications may be clearly understood.

Prior to the introduction of cheap drawing paper and cheap photo-copying process, the architect thought out his scheme clearly in his mind before committing it to paper; this necessitated making sure that he was clear as to his instructions and particulars of his client's requirements and that these were thoroughly understood not only by himself but by his client. In other words, he began with definite data; he had everything that he required to work up his scheme, even to the style of design of the building. Furthermore, he was a master of technique of building construction: he understood the materials of his building and how they were put together. Hence, he could conceive every detail in his mind, the relationship of one material to another, and how they would be used and incorporated together in the construction of the building. He had no doubt as to the construction of this or that, he knew and arranged for everything to take its proper place and order: for everything to fit perfectly well in the scheme as a whole.

It is true he had not quite so many materials to contend with as in these days, but these have not made building any more complicated, if anything, they have simplified it. What really has happened is that in these changes from one class of materials to others, the new materials are executed mainly by specialists. Now this has led to the architect's undoing. Quite a large majority of architects do not understand the technique of these materials nor their construction, consequently they are no longer masters of building construction. In other words, they are not abreast of the times. The result is that architects as a general rule are unable to complete their working drawings. Take for example a simple illustration: there are a host of specialists dealing in fireproof floors, all differing in construction, and such that the architect cannot say what the thickness of the floors may be nor what the method of support will be to carry the floors until he decides upon the type of floor to adopt. Price may be a factor in determining this. But while in abeyance, and as it may affect many other trades, he cannot decide other things as well. As with this, so with the other specialists' trades. Hence, his construction is vague—"in the air"—so to speak.

The common practice is for the architect to prepare a scheme, the construction of which as regards specialists' trades is merely suggestive of what it may be. And as parts of the building works are affected thereby the drawings are sketchy and but barely indicate what the construction is to be. For instance, a steel framed building may not have anything on the drawings to indicate that steel work will be part of the construction, and, if steel work is shown, it is only, say, in diagram outline—perhaps without a single dimension or figured sizes of members.

For the construction of specialists' work the architect is solely dependent upon specialists, who may probably supply him with a scheme in outline along with their estimates. Let it be clearly understood that a detailed scheme or constructional details of the work would but rarely be supplied, certainly in most cases not until the estimate had been accepted. More often than not, the specialist—particularly in steel framed construction and reinforced concrete—submits his detailed scheme of construction to the Local Authorities, and it is invariably on the strength of the specialists' scheme that the plans may be approved by the Local Authorities as regards construction and the like.

The architect of course supplies the specialists with a

(Continued on page 88, Advertising Section)

SERVICE DEPARTMENTS

THE MART. In this department we will print, free of charge, notices from readers (dealers excepted) having for sale, or desiring to purchase books, drawing instruments and other property pertaining directly to the profession or business in which most of us are engaged. Such notices will be inserted in one issue only, but there is no limit to the number of different notices pertaining to different things which any subscriber may insert.

PERSONAL NOTICES. Announcements concerning the opening of new offices for the practice of architecture, changes in architectural firms, changes of address and items of personal interest will be printed under this heading free of charge.

QUERIES AND ANSWERS. In this department we shall undertake to answer to the best of our ability all questions from our subscribers concerning the problems of the drafting room, broadly considered. Questions of design, construction, or anything else which may arise in the daily work of an architect or a draftsman, are solicited. Where such questions are of broad interest, the answers will be published in the paper. Others will be answered promptly by letter.

FREE EMPLOYMENT SERVICE. In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions. Such notices will also be posted on the job bulletin board at our main office, which is accessible to all. Owing to the very large number of advertisements submitted for publication under this heading we are asking those desiring to use this service to make their advertisements as short as possible, *in no case to exceed forty words.*

Notices submitted for publication in these Service Departments must reach us before the tenth of each month if they are to be inserted in the next issue. Address all communications to 419 Fourth Avenue, New York, N. Y.

THE MART

C. W. Isbell, 5817 Morris Street, Germantown, Apt. 259 E. Philadelphia, Pa., would like to secure the following copies of PENCIL POINTS: January, February, March, April, 1925; March, 1926; November, 1927.

W. W. Hibbs, c/o C. Z. Klauder, 1429 Walnut Street, Philadelphia, Pa., would like to secure one copy each of Vol. II, Nos. 1 and 3; Vol. III, No. 3; two copies each of Vol. II, No. 4, and Vol. III, Nos. 1 and 4 of the *White Pine Series of Architectural Monographs.* He has for sale the following copies of the Monograph Series: Vol. I, No. 1; Vol. VIII; Vol. IX, No. 4, and Vol. XI, Nos. 4 and 5.

Arthur Vleck, 3767-63rd Street, Woodside, L. I., N. Y., has for sale the following copies of PENCIL POINTS: All copies of 1921 except January; January, September, October, November, December, 1922; all of 1923 except October and July; all copies of 1924, 1925, 1926, 1927, and 1928; January, February, March and April, 1929.

N. L. Boyum, 2107 Kenilworth Avenue, Berwyn, Illinois, has for sale the following copies of PENCIL POINTS: May, 1922; June, 1923; August, 1925, and August, 1927, at 40c. each.

Roselie G. Smith, 647 Roscoe Street, Chicago, Illinois, would like to secure a copy of December, 1927, PENCIL POINTS.

Robert Bezucha, 2316 Victory Drive, Racine, Wis., would like to secure the following copies of PENCIL POINTS: January, February, March, August, and October, 1928.

Alwin Wiersba, 18 N. Lockwood Avenue, Chicago, Illinois, has for sale the following copies of PENCIL POINTS, unbound: Complete set from June, 1920, to December, 1928, for $25.00 cash, F.O.B. Chicago. All advertising matter has been removed but no text missing.

Clarence T. Jones, Chattanooga, Tennessee, would like to secure the January, February, March and December, 1928, copies of PENCIL POINTS and will pay as much as 75c. per copy.

B. C. Holland, Box 15, Gadsden, Alabama, would like to secure a second-hand drawing table with top at least 3 feet by 6 feet.

PERSONALS

SMART & SCHUENEMAN have dissolved their partnership. Paul Richard Schueneman is now practicing at 304 Magee Building, Pittsburgh, Pa.

JOHN H. LIEBAU & JOHN C. BREIBY have become associated for the practice of architecture under the name of Liebau & Breiby, 238 Main Street, Hackensack, N. J.

HOWARD A. LEVAN, JR., has moved from 2144 North Sixth Street to 718 South 29th Street, Harrisburg, Pa.

NATHAN LEEBOV, architectural engineer, announces the opening of an office at B. F. Jones Law Building, Fourth Avenue and Ross Street, Pittsburgh, Pa.

WM. F. HATHAWAY, LANDSCAPE ARCHITECT, announces the opening of an office at 241 Adams Building, Saginaw, Michigan.

WM. KOEHL, ARCHITECT, announces the removal of his office from 1720 Euclid Avenue to 1900 Euclid Building, Rms. 708-709, Cleveland, Ohio.

FREDERICK HODGDON has become associated with FREDERICK STANTON for the practice of architecture under the firm name of Stanton & Hodgdon with offices at the Bell Building, 307 North Michigan Avenue, Chicago, Illinois.

LEO F. BACHMAN, ARCHITECT, announces the removal of his office from 348 South Western Avenue to 331 South Western Avenue, Los Angeles, California.

DOMENIC A. VALANO, formerly of Elizabeth, N. J., is now located at 225 N. Wood Avenue, Linden, N. J.

HORATIO W. BISHOP, ARCHITECT, has moved his offices from Carrier 799, Station S, Los Angeles, California, to 6316½ San Vincente Blvd., Carthay Center, California.

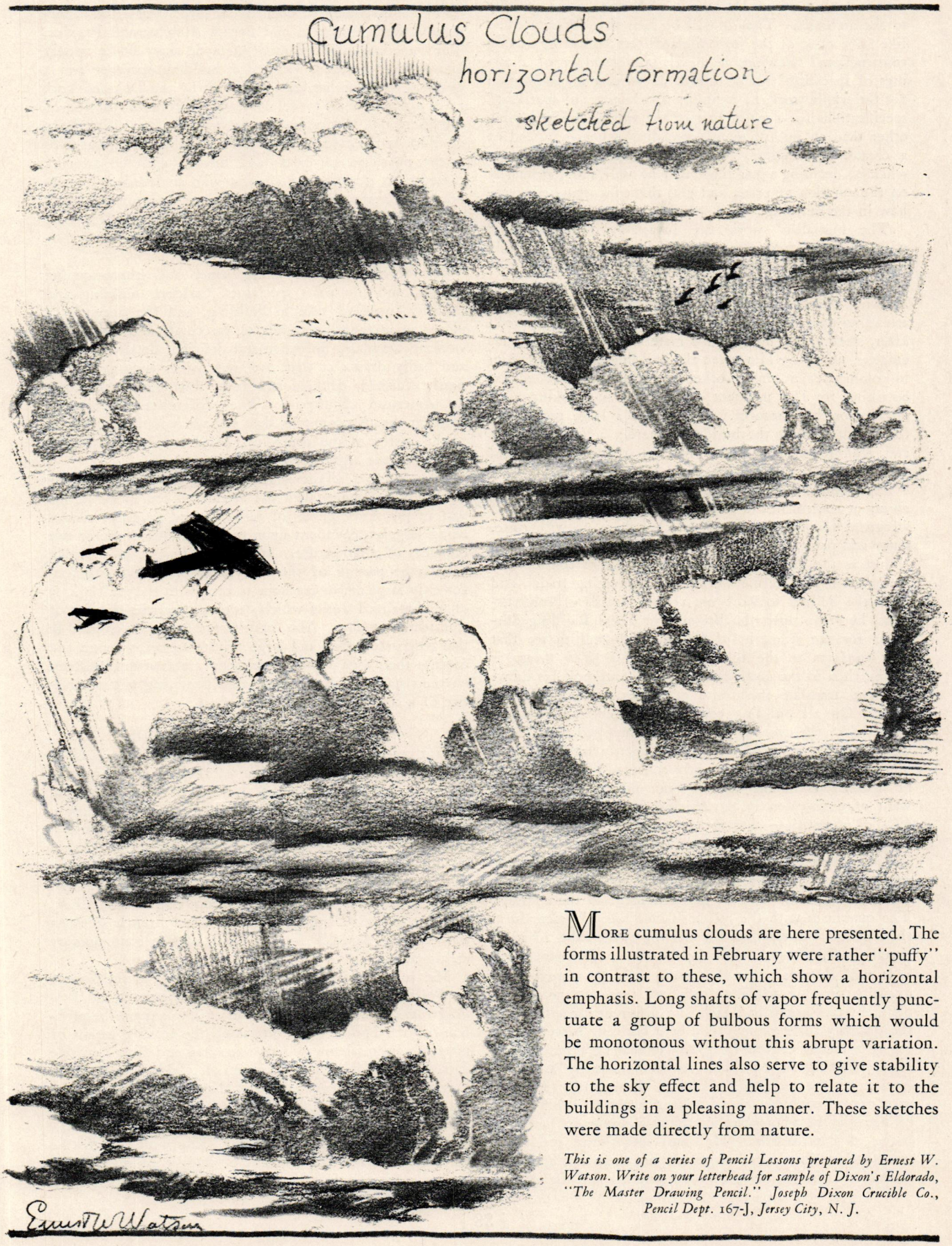
FREE EMPLOYMENT SERVICE

(Other items on pages 168 and 170, Advertising Section)

POSITION WANTED: Young architect, college graduate, would like to work with one of best New York architects in very modern interior and exterior drawings. Also steel and concrete designing. Five years of practical experience. Speaks three languages. Box No. 420, care of PENCIL POINTS.

The ELDORADO PAGE for 1929

Sketching with ELDORADO the Master Drawing Pencil



More cumulus clouds are here presented. The forms illustrated in February were rather "puffy" in contrast to these, which show a horizontal emphasis. Long shafts of vapor frequently punctuate a group of bulbous forms which would be monotonous without this abrupt variation. The horizontal lines also serve to give stability to the sky effect and help to relate it to the buildings in a pleasing manner. These sketches were made directly from nature.

This is one of a series of Pencil Lessons prepared by Ernest W. Watson. Write on your letterhead for sample of Dixon's Eldorado, "The Master Drawing Pencil." Joseph Dixon Crucible Co., Pencil Dept. 167-J, Jersey City, N. J.

AMERICAN AND BRITISH ARCHITECTURAL PRACTICE

(Continued from page 435, Editorial Section)

copy of the drawings of the general scheme, and the specialist in his turn usually submits a scheme of his specialty to the architect. Thus it will be seen that for something like 50% or so of the work the architect instead of making constructional drawings is merely an examiner of drawings of specialists' work; instead of writing a specification for the whole work, he is simply an examiner of specialists' specifications for a major part of the works, and is nothing other than an interpreter of specialists' schemes instead of a creator of schemes. Anyhow, he juggles with these schemes, deciding upon those that he will adopt primarily on the question of price, and gets them incorporated somehow in the building.

The specialists' works are invariably fenced around with all kinds of conditions which the architect judiciously leaves to the builder to circumvent as best he can, or anyway deal with them. Generally it results in the builder allowing the specialist the use of his scaffolding and plant, attending upon him, cutting all holes for and making good after, storing and hoisting his materials and returning his empties, notifying him when the building is ready for him to commence and many other incidental services such as obtaining for him payment of his work and making himself responsible therefor. Hence, for a large portion of the building work the builder is merely a hirer of plant and scaffolding (sometimes without remuneration) and general laborer upon specialists. However, the builder is responsible for the specialists' work although he has had no say or control in the matter, and if any defects arise, to safeguard himself, he usually patches them up with paste, putty and paint.

Just as the architect relies upon specialists for schemes in the main for the mechanical or engineering trades, and upon the builder to work out certain details of constructions, he relies upon the Borough or Local Building Surveyor for the strengths of his materials and to see that they conform to the By-Laws as well as such things as drains, then to the quantity surveyor to interpret his drawings and translate them into quantities of materials and labor. On all building contracts of note quantities are prepared by the quantity surveyor and supplied to builders, who therefore compete and tender upon a uniform basis. The builder really is not greatly concerned in the defects or inaccuracies of the drawings nor in any deficiency or want of description in the specification, but he is in the bills of quantities—shortage in quantity or lack of descriptions of the items—or any variation between them and the executed work. Should any of these matters be prejudicial to him he could and no doubt would claim "an extra" for the same in the settlement of the contract. The quantities with the builder's unit rate of prices form the schedule and the basis for arriving at the value of additional work, if any, and the "extras" aforementioned.

It will be noted that the terms building surveyor and quantity surveyor made use of here represent persons in different professions and each in a different capacity. But the quantity surveyor may also be a building surveyor acting in a totally different capacity to that of a Borough or Local building surveyor and rendering equally as useful services to the architect. Though the quantity surveyor may not be nor need be a building surveyor, yet he must of necessity be amongst other things a master in the technique of construction. He must understand specialists' works at least insofar as how to measure them and how they assembled and their relation to one another and the general construction work. Anything and everything to which a monetary value can be attached, be it materials or labor, or what not, must be included in his bill of quantities. To a builder a bill of quantities is the most important document in a building contract.

The employment of quantity surveyors marks the difference between American and British Architectural Practice. The functions of a quantity surveyor may not be widely known in America. That of a building surveyor and a quantity surveyor has been aptly put by the Duke of York at a banquet held to celebrate the Diamond Jubilee of the Surveyors' Institution in London last year. The Duke of York is reported to have said: "The building surveyor is the physician of bricks and mortar, and the quantity surveyor, as it were, the chemist who analyzed and measured in minutest detail the component parts of the structure that was to arise." From Royalty downwards, there is no mistaking the parts played in building by the building and quantity surveyor.

Nevertheless, despite cheap paper and photo-copying process, and the parts specialists, builders, building and quantity surveyors take in building, and the dependence placed upon them by architects, inaccurate and incomplete working drawings, defective and deficient detail drawings, and badly drawn at that, are inexcusable judging by the neatly finished, detailed and fully dimensioned drawings by American architects. The difference in practice between the two countries does not warrant this difference in the quality of draftsmanship, unless it be that American architects take a greater pride in their work.

This state of affairs is reflected in the passing of the general practitioner, who has attempted too much in the past in the many phases of building and practice; success being largely dependent upon specialization in one or two branches of architecture. It likewise denotes to a certain extent the passing of the individual practicing architect, for only large offices can hope to cope with the multiplicity of sectionalized duties which devolve upon the practice of architecture today. Also, architectural practice suffers in that corporate bodies and large private concerns design and execute their own works, employing architectural assistants on their staff for the purpose, thus depriving private practice of a considerable amount of work.

PRODUCERS' COUNCIL DINNER

A MEETING OF THE PRODUCERS' COUNCIL was held in Washington, D. C., at the time of the recent Convention of the American Institute of Architects. On April 22nd a dinner was given by the Council at the Hotel Mayflower. Mr. F. P. Byington, President of the Council, presided as toastmaster. Also, at the speakers' table were Mr. Horace W. Peaslee, President of the Washington, D. C., Chapter, Mr. M. H. Furbringer, Tennessee Chapter, A.I.A., Mr. Julian Clarence Levi, Foreign Relations Committee, A.I.A., and M. Marcel Chappey, a distinguished French architect now visiting America for the study of our contemporary architecture.

Mr. John Reed Kilpatrick, Vice-President of the George A. Fuller Company, spoke upon the *Cooperation of Producers and Builders*. Mr. Kilpatrick dwelt upon the problems of the builder in determining the relative merits of materials from salesmen's representations and from available data on the performance of materials yielded by research.

Mr. Foster Gunnison, of Cox, Nostrand and Gunnison, spoke upon *Obtaining the Cooperation of Architects*. Mr. Gunnison developed a theory of this based upon the historical background of architecture. Knowledge of this he emphasized as the first requisite of intelligent appreciation of the architect as a sales prospect.



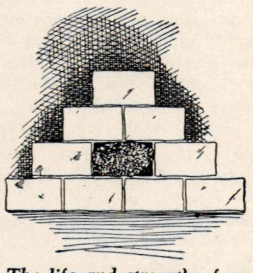
*How Solid Is 90 Per Cent?

(*Volume Per Cent of Water in Concrete*)

IN GENERAL concrete practice 25 or 30 gallons of water are used in mixing a cubic yard of concrete. This means that between 3 and 4 cubic feet of water are present in every cubic yard of concrete. As is well known, water is subject to evaporation and unless some chemical action took place between the cement and water, the entire cubic content of water would dry out as the concrete "sets."

As a matter of fact, a chemical action, known as hydration, does set up between cement and water and the cement retains about 25% of the water permanently. There still remains a free volume of water subject to complete evaporation and equal to 10% of the total volume of each cubic yard of concrete. Since water can not be compressed we know that when the concrete is dry there will be one-tenth unoccupied space in the mass—only 90% of the concrete's volume will be a solid.

The 10% space is naturally not a single cavity but millions of tiny pores or pockets from which water has gone and into which water can come again unless it is barred out. The Truscon Laboratories, from the very beginning, attacked the problem of waterproofing concrete from the scientific angle. Realizing that water enters concrete because of the 10% voids left by the evaporation of water, we set about discovering a method of eliminating absorption in concrete.



The life and strength of concrete is as seriously affected by the 10% voids left by water's evaporation as a wall in which to every 9 stones one sponge was laid in.

The result of our many experiments and tests was Truscon Waterproofing Paste Concentrated, a waterproofing product which is mixed with the original concrete, becoming a permanent and integral part of it and protecting the concrete throughout its entire life. This product can be easily and economically used and will pay for itself many times over in the better appearance and the reduced maintenance costs of the construction. No concrete should ever be used without this precaution of integral waterproofing.

★ *This is No. 5 of a series of non-technical explanations prepared by R. A. Plumb, General Director of The Truscon Laboratories, on the necessity for integrally waterproofing all concrete used in building.*

R. A. Plumb

General Director of
THE TRUSCON LABORATORIES

Write for free data on the practical uses of Truscon Waterproofing Paste Concentrated.

THE TRUSCON LABORATORIES ▱ ▱ DETROIT, MICHIGAN
OFFICES IN ALL PRINCIPAL CITIES • • FOREIGN TRADE DIVISION, NEW YORK

Specify **TRUSCON**
WATERPROOFING

PUBLICATIONS

OF INTEREST TO THE SPECIFICATION WRITER

Publications mentioned here will be sent free unless otherwise noted, upon request, to readers of PENCIL POINTS *by the firm issuing them. When writing for these items please mention* PENCIL POINTS.

Rossman Spanish Tiles.—Attractive publication, just issued, with many color plates describing Rossman Spanish tiles for floors, decorations, wainscots, fountains, inserts and panels. Standard filing size. Rossman Corporation, 160 E. 56th St., New York, N. Y.

Published by the same firm, "Rossman Satinet Recessories." New folder in colors for insertion in general Rossman loose-leaf catalog illustrates a new line of bathroom fixtures. Typical installation arrangements. 8½ x 11.

Diebold Vault Doors.—A.I.A. File No. 18-G. Catalog No. 110 in looseleaf binder describes and illustrates the Victory line of vault doors. Sections, detail drawings, specifications. 8½ x 11. 36 pp. Diebold Safe and Lock Company, Canton, Ohio.

Nailcrete.—A.I.A. File No. 4-m. New publication describes the qualities, physical properties, and characteristics of this product as a nailing base for floors or roofing for office buildings, hotels, schools, hospitals, residences, public and industrial buildings. Detail drawings, specifications. 8½ x 11. 16 pp. The Nailcrete Corporation, 105 W. 40th St., New York, N. Y.

Perforated Steel Sheets.—A.I.A. File No. 30-E. Catalog No. 26 just issued. Attractive publication illustrates many patterns of perforated steel sheets for radiator covers, telephone and fireplace screens, grilles, ventilators, etc. Several pages devoted to steel mouldings and wrought iron ornaments. Specifications, detail drawings. Standard filing size. 32 pp. J. G. Braun Co., 537 W. 35th St., New York, N. Y.

Concrete Masonry Construction.—A.I.A. File No. 10-a-2. New document for architects and building contractors on the subject of good construction practice with estimating data for concrete masonry on the 100 sq. ft. of wall area basis. Many pages of construction details covering standard sizes of concrete block and building tile, wall and window construction, roofs, floors and Portland cement stucco. Specifications. 8½ x 11. 48 pp. Portland Cement Assn., 33 W. Grand Ave., Chicago, Ill.

Published by the same firm, "Two-Family Houses of Concrete Masonry." A.I.A. File No. 10-a-2. New publication showing 18 designs for double-unit houses having the appearance of single-family residences of architectural merit. Floor plans with each design. 24 pp. 8½ x 11.

Proof of the Pudding.—Attractive brochure describing Robras concealed radiators. Profusely illustrated. Standard filing size. Rome Brass Radiator Corporation, 1 East 42nd St., New York, N. Y.

Medusa Waterproofed Gray Portland Cement.—A.I.A. File No. 4. New catalog for architects and contractors, contains complete information on this kind of cement for foundations, footings, pits, basement floors, etc. Reports of tests, specifications, illustrations. Medusa Portland Cement Co., 1002 Engineers Bldg., Cleveland, O.

Hartmann-Sanders Catalog.—A.I.A. File No. 19-e-8. Catalog and price list No. 48. New publication for 1929 illustrates the complete line of Koll's patent lock-joint staved wood columns for exterior and interior work. Specifications. 56 pp. 7¾ x 10½. Hartmann-Sanders Co., 2155 Elston Ave., Chicago, Ill.

The Modern Spirit in Architecture.—A.I.A. File No. 16-a. Folder for architects and draftsmen presents new series "M" hollow metal mouldings. Full size details. 8 pp. Standard filing size. Lawton-Stephens Co., Inc., 247 Marcy Ave., Brooklyn, N. Y.

Bathrooms for Out-of-the-Ordinary Homes.—Brochure contains series of twelve color plates showing representative bathrooms with suggestions for color schemes and proper arrangement. 16 pp. 8½ x 11. Crane Co., 836 S. Michigan Ave., Chicago, Ill.

May Oil Burner Manual.—A.I.A. File No. 30-g-1. A manual of information for architects on automatic oil burners, together with a complete copy of the regulations of the National Board of Fire Underwriters for the installation of oil burning equipment. Basement floor plans, sample specifications. Valuable document for architects' reference file. Indexed. 68 pp. Standard filing size. May Oil Burner Corporation, Baltimore, Md.

Published by the same firm, "The Quiet May Automatic Oil Burner." New booklet devoted to subject indicated, showing graphically its installation and operation. 32 pp. 8½ x 11.

The Improved Fire-Safe Floor and Roof Construction.—A.I.A. File No. 13. New booklet showing the various units of the new Kalman construction for floors and roofs for office buildings, schools, apartment houses, hospitals, residences, hotels, etc. Specifications. 8 pp. 8½ x 11. Kalman Steel Co., Wrigley Bldg., Chicago, Ill.

Duretta.—A.I.A. File No. 19-e-33. Illustrated bulletin showing numerous applications of this material which is a fireproof substitute for plain or carved woodwork or for metal. Standard filing size. G. E. Walter, 157 E. 44th St., New York, N. Y.

Ideal Gas Boilers.—Bulletin in colors describing this type of heating equipment for residences, apartments, churches, banks, clubs, etc. Dimension drawings, tables. 20 pp. American Gas Products Co., 376 Lafayette St., New York, N. Y.

Hospitals Yesterday and Today.—A.I.A. File No. 29-b-4. Brochure on hospitals which is No. 1 of a series featuring the high lights in the architectural development of different types of structures. Separate data sheet showing various types of Jenkins valves for use in hospitals. 8½ x 11. Jenkins Bros., 80 White St., New York, N. Y.

Ambler Asbestos Corrugated Roofing and Siding.—A.I.A. File No. 12-f-2. Illustrated catalog contains complete information on subject indicated. Detail drawings and tables for standard purlin spacings showing the method of applying this roofing and siding to steel or wood construction. 50 pp. 8½ x 11. Asbestos Shingle, Slate & Sheathing Co., Ambler, Pa.

Welch School and Laboratory Furniture.—Catalog F describes and illustrates this complete line of laboratory, vocational and library furniture. Construction details. Indexed. 134 pp. 8½ x 11. W. M. Welch Manufacturing Co., 1516 Orleans St., Chicago, Ill.

The New Outline of Cement Floors.—A.I.A. File No. 4-1-3. Data folder covering several types of T.M.C. lockstrip for cement floors. Specifications. Standard filing size. Lockstrip Manufacturing Co., 36 Vernon Boulevard, Long Island City, N. Y.

Machine-Made Clay Building Block.—A.I.A. File No. 9-c. Specifications and data folder with series of construction blue prints covering this type of building block for interior wall construction. Standard filing size. Federal Seaboard Terra Cotta Co., 10 East 40th St., New York, N. Y.

Sanacoustic Sound-Absorbing Tile.—A.I.A. File No. 39-b. New illustrated publication devoted to Johns-Manville sanacoustic tile, a sound-absorbing interior finish for all types of buildings. Detail drawings. 8½ x 11. 8 pp. Johns-Manville Corporation, 292 Madison Ave., New York, N. Y.

Published by the same firm, "Johns-Manville Floridene Stone." A.I.A. File No. 22-a-2. A new document with information on Floridene Stone, a natural travertine, suitable for use in all types of public and residential buildings of the better class. Standard filing size.

Wire Reinforcing Fabric in Buildings.—Illustrated catalog describing wire fabric concrete reinforcement and explaining its use in various types of building construction. Detail drawings, tables. 64 pp. American Steel and Wire Co., 208 S. LaSalle St., Chicago, Ill.

Mahon Fire Doors.—Descriptive booklet with blue print details covering standard Kalamein and Underwriters labeled doors for residential, commercial and industrial buildings. 8 pp. 8½ x 11. The R. C. Mahon Co., 8650 Mt. Elliott Ave., Detroit, Mich.

Published by the same firm, "Facts and Figures." Data folder with diagrams and tables on the subject of steel roof deck construction. Standard filing size.

U. S. Paracore Wire.—A.I.A. File No. 31-c. Attractive book illustrating numerous outstanding buildings wired throughout with U. S. Paracore wire. Tables of conduit sizes, etc. United States Rubber Co., 1790 Broadway, New York, N. Y.

Published by the same firm, "U. S. Paracore Rainbow Wires." Standard filing size folder in colors on this line of colored wires which provides a permanently marked system of wiring.

Insulite Specifications and Details.—A.I.A. File No. 37-a-1. Booklet gives complete data, specifications and details on the use and installation of Insulite for plaster base, sheathing, wall board, exterior finish, acoustical correction and sound deadening. 16 pp. Standard filing size. The Insulite Co., Builders Exchange Bldg., Minneapolis, Minn.

Published by the same firm, "Roof Insulation." A.I.A. File No. 37-a-1. Complete data on the use of Insulite for roof insulation and prevention of condensation. Diagrams, charts, specifications. 16 pp. Standard filing size.

The New Vogue.—Illustrated booklet setting forth the advantages of Orange aluminum frame screens. 12 pp. Orange Screen Co., Maplewood, N. J.

STRUCTURAL STEEL CREATED THE SKYSCRAPER

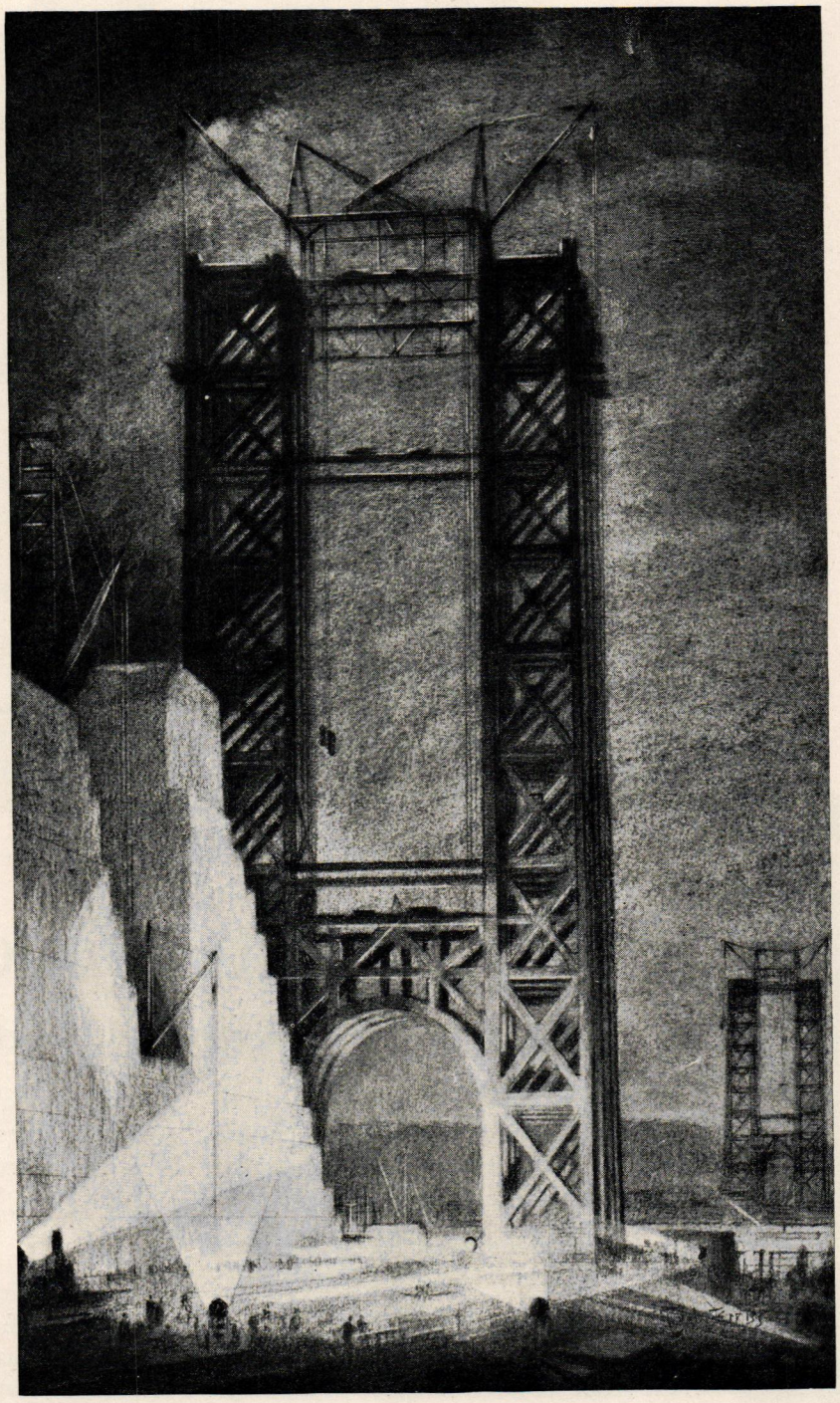
TO LEAP A FLOOD AND TIE THE SHORES

HIGHWAYS of metal . . . bridges of steel —more immense . . . more defiant of the impossible do they become every year. Steel has strength, safety, security . . . and time cannot destroy them. Steel lends courage to design, inspiration to imagination.

A steel bridge not only offers greater artistic possibilities but provides the kind of structure that can always be kept secure . . . modernized, reinforced, altered—even removed with speed and economy.

Steel has such ready adaptability, such preparedness for its duty, that a steel bridge can be erected faster, with less handling of material, with less regard for weather than is required when any other material is used. Steel's quick suitability, its efficient fitness, recommend it for economy. Its versatility makes steel the first consideration where beauty is a factor.

A Technical Service Bureau is at the disposal of architects, engineers, owners and others who have need of any information which can be supplied through the American Institute of Steel Construction, Inc.



A reproduction of this rendering by Hugh Ferriss, suitable for framing, will be mailed free of cost to any architect

AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.

The co-operative non-profit service organization of the structural steel industry of the United States and Canada. Correspondence is invited. 200 Madison Avenue, New York City. District offices in New York, Worcester, Philadelphia, Birmingham, Cleveland, Chicago, Milwaukee, St. Louis, Topeka, Dallas and San Francisco.

The Institute publishes twelve booklets,

STEEL INSURES STRENGTH AND SECURITY

one on practically every type of steel structure, and provides also in one volume, "The Standard Specification for Structural Steel for Buildings," "The Standard Specification for Fire-proofing Structural Steel Buildings," and "The Code of Standard Practice." Any or all of these may be had without charge, simply by addressing the Institute at any of its offices.



NORTH STATION INDUSTRIAL BUILDING, Boston, Mass. — *Architect: S. Scott Joy, Chicago, Ill. Contractor: Turner Construction Co., Boston, Mass. Elevator Contractor: Otis Elevator Co.*

Heavy Duty Seco Doors

prove their reliability and efficiency

Larger and heavier trucking loads are now demanded in the modern handling of freight. Wider openings are an attendant necessity.

Such conditions require freight elevator doors of heavy and rigid construction.

SECO HEAVY DUTY DOORS are rigidly and heavily constructed to stand the strain of large and heavy loads—yet they operate quickly, silently and easily.

They are equipped with extra heavy trucking bars, specially lubricated ball-bearing sheaves and anti-friction shoes.

And they are counter-balanced and truckable.

The installation in the North Station Industrial Building at Boston is only one of thousands where SECO doors have unquestionably proven their reliability and efficiency.

Send for catalog, or inquire at any of our offices

SECURITY FIRE DOOR CO., 3044 Lambdin Ave., St. Louis, Mo.

Offices in New York, Boston, Philadelphia, Chicago, San Francisco, Detroit and Other Principal Cities

SECURITY DOORS

Make good freight elevators more efficient

Yeomans in DETROIT



Yeomans Pumps Always On Guard!

These Detroit Buildings Depend on Yeomans Sewage and Drainage Pumps

Kerns Store
Grosse Pointe Yacht Club
Kresge Building
Statler Hotel
J. L. Hudson Store
Newcomb Endicotte Store Bldg.
Norris Apartments
St. Gregory's Church
Smith Factory Bldg.
Detroit Saturday Night
Wilson Theatre Bldg.
Woman's Old Colony Club
Penobscot Bldg.
Buhl Building
Union Trust Building
First National Bank Bldg.
Dime Bank Bldg.
David Whitney Bldg.
Book Cadillac Hotel
Book Tower Garage
Packard Motor Car Co.
New Masonic Temple
Detroit Edison Co.
Detroit Creamery Co.
New Public Library
Fine Arts Bldg.
Ford Motor Co.
Fort Shelby Hotel
Frank & Sedar Bldg.
Heyn's Bazaar
Parke Davis Co.
Chrysler Motor Car Co.
Michigan Bell Tel. Bldg.
Detroit Yacht Club
City of Detroit
Empire Tel. Exchange
Columbia Tel. Exchange
Mack Ave. Tel. Exchange
Gratiot Ave. Tel. Exchange
Marygrove College
Grand Circus Garage
League of Catholic Women
Packard Air Craft Bldg.
Packard Service Bldg.
Woman's Activities Bldg.
Chas. Oakman School

And Many More

Constantly,—every minute and hour of the day and night, Yeomans sewage and drainage pumps are protecting hundreds of thousands of dollars worth of machinery, vital to the successful operation of Detroit's most prominent buildings, against damage by flooding.

It requires specialists to build pumps of this type upon which so much depends, as failure to operate might result in enormous losses and interruption of service to tenants.

Thirty years of concentration have given Yeomans engineers a complete understanding of all that should enter into dependable equipment and Detroit architects and engineers place their full confidence in it.

YEOMANS BROTHERS COMPANY

1448 Dayton Street
Chicago

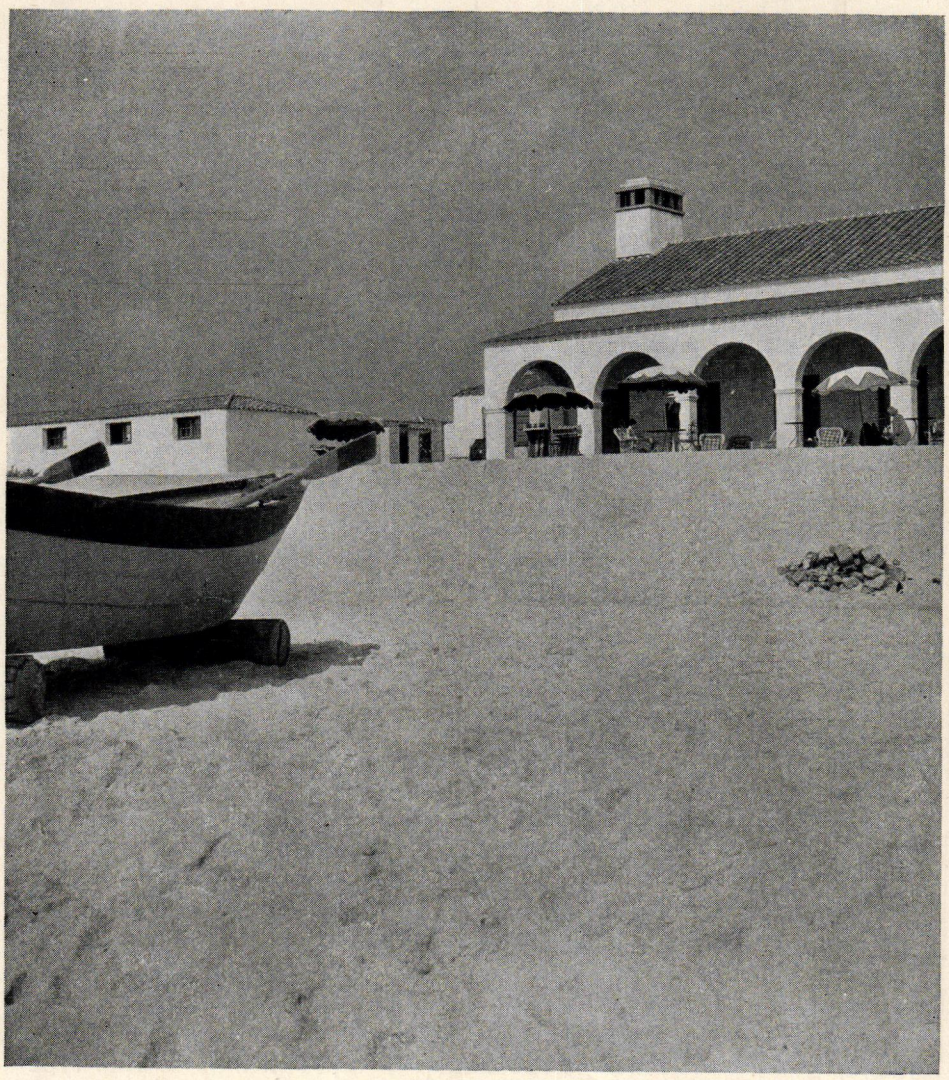
Representatives in Principal Cities

Yeomans Pumps

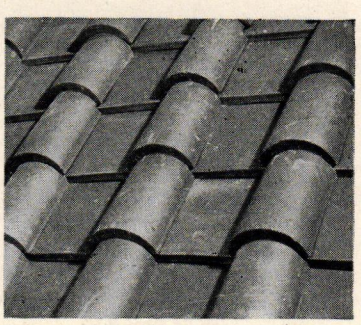
Sewage and Drainage

YEOMANS PUMPS · GIVE YEOMAN SERVICE ·

A Roof as Mellow as Those Along the Mediterranean



Left: Bathing Pavilion of the Southampton, Long Island, Beach Club; Peabody, Wilson & Brown, Architects. Below: A close-up of the IMPERIAL Roman Tiles which were used on this building.



THE architects of the Southampton Beach Club drew their inspiration from the picturesque old structures that border the Mediterranean. Very wisely, therefore, they insisted upon a roofing material that would simulate the mellow color and weathered texture of a roof laid centuries ago.

They found it in IMPERIAL Roman Tiles, for these tiles are astonishingly faithful reproductions of the age-old tiles that charm the eye in Southern Europe. Neither in color or texture is it possible to distinguish them from their ancient originals.

When planning a house of Spanish, Italian, French or English architecture, remember that there are IMPERIAL Roofing Tiles to harmonize ideally with it. And also that the less expensive ones now cost no more than a non-fireproof roof which must periodically be replaced.

LUDOWICI-CELADON COMPANY

Makers of IMPERIAL Roofing Tiles

CHICAGO: 104 SOUTH MICHIGAN AVENUE
NEW YORK: 565 FIFTH AVENUE WASHINGTON: 758 FIFTEENTH ST. N. W.

FOR INFORMATION concerning IMPERIAL ROOFING TILES, address the Ludowici-Celadon Company, 104 South Michigan Avenue, Chicago



Guaranteed "National Tree" lumber to fill detailed specifications for doorways, interior panelings, etc.



"National Tree" lumber safeguards every heavy construction specification

Look for the Tree Symbol *

FROM

Beautiful Doorways to Sturdy Joists . . .

GUARANTEED "NATIONAL TREE" LUMBER safeguards your specifications

GONE is the day of uncertainty as to whether lumber delivered for detailed uses will meet your particular specifications. Now the National Lumber Manufacturers Association guarantees, to your client's dealer, that each piece of lumber bearing its trade-mark—the "National Tree" symbol—is of the quality indicated thereon by the official marks of the expert grader. And that lumber so marked is carefully manufactured "American Standard Lumber from America's Best Mills." A 100% assurance that the interests you serve are fully protected.

Many architects have found the Lumber Consultants—100 experts employed by the great lumber associations, trained in wood technology, construction and engineering methods — render invaluable assistance in solving all kinds of construction problems. Their services are free: they will be glad to assist you . . . they will bring you information relating to the specifying and using of "National Tree" lumber.

NATIONAL LUMBER MANUFACTURERS ASSOCIATION
Transportation Bldg., Washington, D. C.

Offices in New York, Chicago, Boston, Pittsburgh, Indianapolis, Memphis, Kansas City, Minneapolis, San Francisco, New Orleans

Send Now for Free Booklets

* *The Tree symbol stamped on a piece of lumber is your guarantee that the quality indicated thereon by the marks of the expert grader is correct . . . that the lumber is carefully manufactured "American Standard Lumber from America's Best Mills."*



National Lumber Manufacturers Association
Dept. 4305, Transportation Bldg., Washington, D. C.

Gentlemen: I would like to have a Lumber Consultant arrange to call. Send the booklets checked.

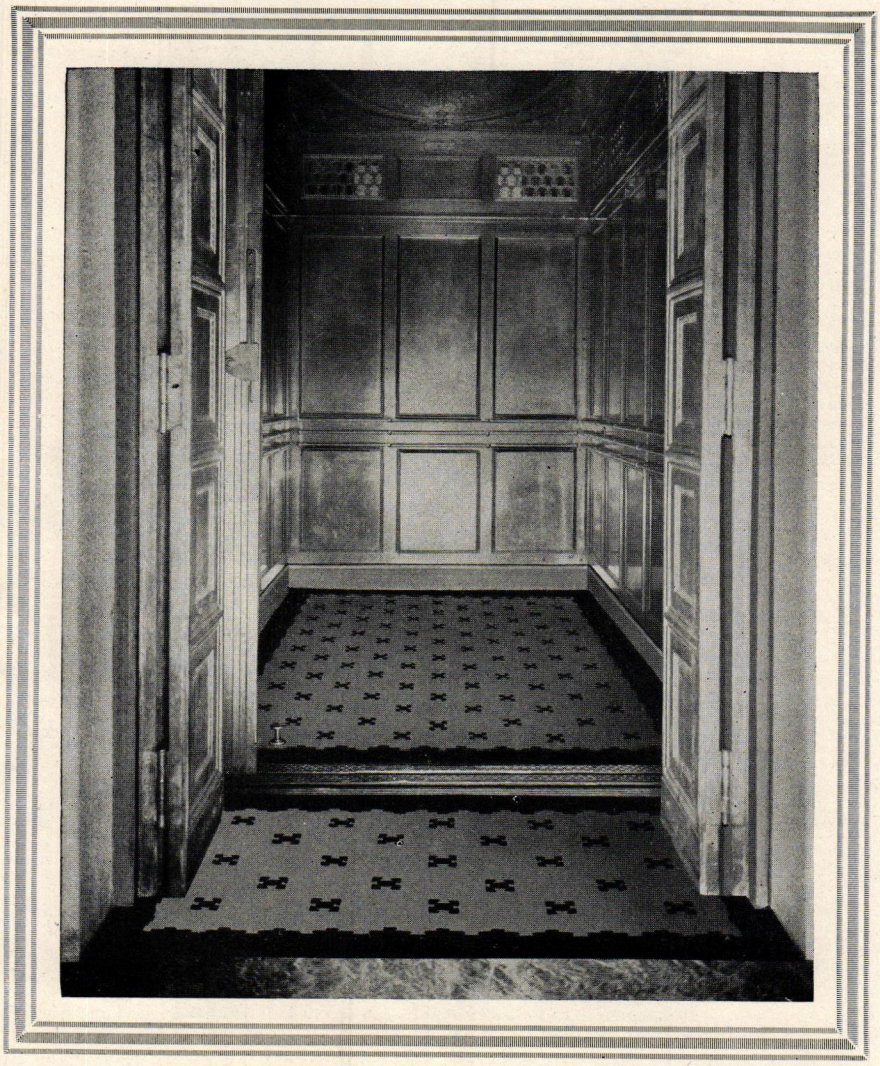
Modern Home Interiors ( )
Taking the Mystery out of Lumber Buying ( )
Choosing the Industrial Building ( )

Name .....

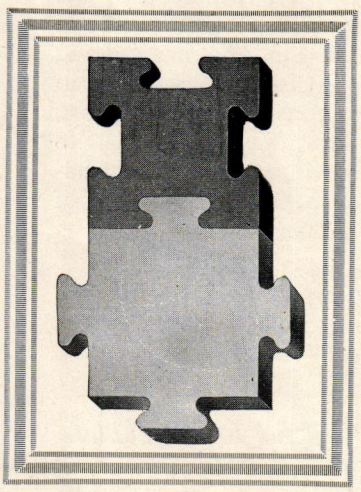
Firm .....

City ..... *State* .....

Durable and Non-Slip Elevator Floors



New York County Court House
New York, N. Y.
Guy Lowell, Architect



ELEVATOR floors are subjected to more wear and tear than any other walking surface of equal area. On no other floor is the question of safe foothold such a vital one.

Because of its durable and non-slip qualities, Interlocking Rubber Tiling of three-eighths-inch thickness as manufactured and installed by New York Belting & Packing Company, was selected for the elevators of the New York County Court House. The sanitary rubber base installed in these elevators serves to protect the woodwork when cleaning the floor.

A long-lasting floor is assured with this tiling, due to its exceptional thickness and weight. These features also make it an ideal floor for bank vaults.

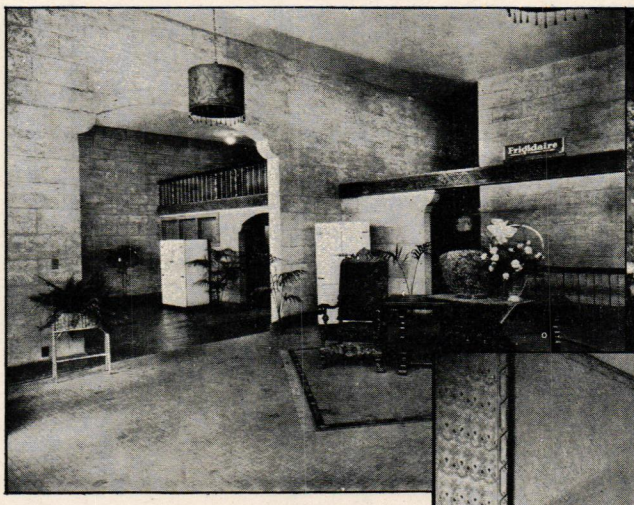
Manufactured in two well-designed shapes that interlock with perfectly tight joints. Colors are permanent and a variety of harmonious shades are offered.

NEW YORK BELTING & PACKING CO.
Original Manufacturers Interlocking Rubber Tiling
91-93 Chambers Street, New York
Boston Chicago Philadelphia Pittsburgh St. Louis San Francisco

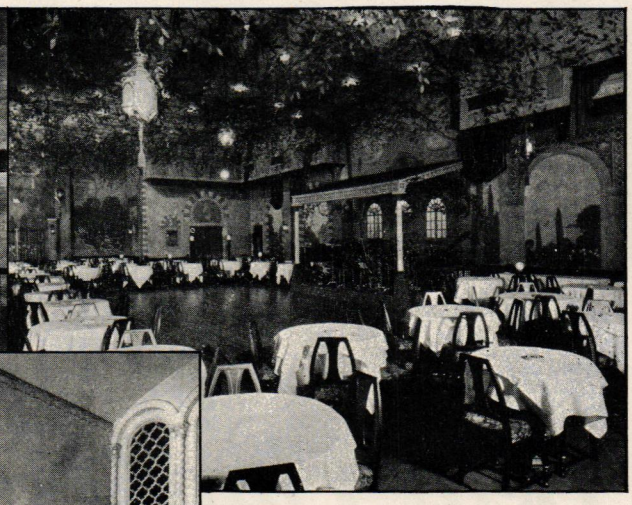
New York Belting & Packing Co.
Rubber Tile Flooring

MURALO PROCESS
TRADE MARK REG. IN U.S. PAT. OFF.

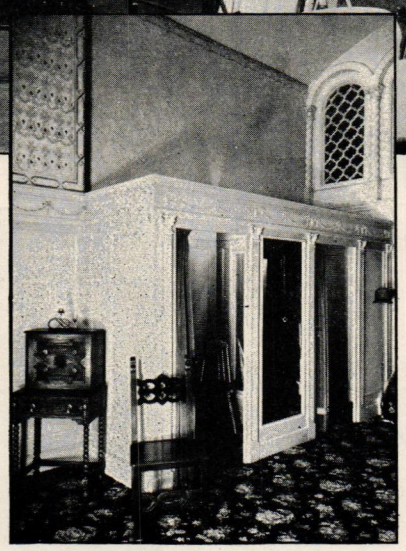
From Coast to Coast



Frigidaire Show Room
Spokane,
Washington, D. C.



Sherry's Night Club
Stanley Theatre Building
Baltimore, Md.



Janette Shop
Cleveland, Ohio

Why Architects are Specifying MURAL-TEX

MURAL-TEX is ideal for all types of construction—for fine residences and public buildings because of its quality and inherent beauty—for modest homes and cottages because of its economy and ease of application.

Mural-Tex quality is always uniform; it is manufactured by a company with 34 years of specialized experience in the wall finish field; it is recognized by authorities as an outstanding material for textured and relief decoration.

Mural-Tex may be applied over plaster, wall board, brick, concrete, wood or any solid surface; it is easy to mix and apply; it permits an unlimited range of decorative effects in both texture and color.

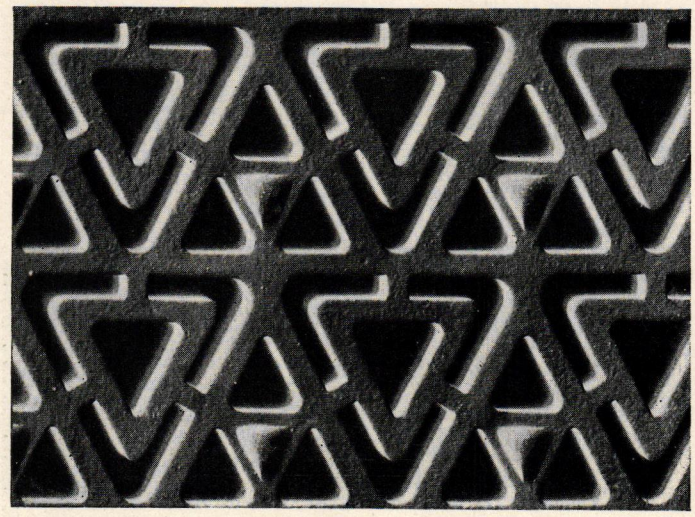
Mural-Tex provides a permanent surface that will withstand the wear and tear to which wall finishes are subjected. When protected with a finishing coat, it can be readily washed with water to remove grit and dust.

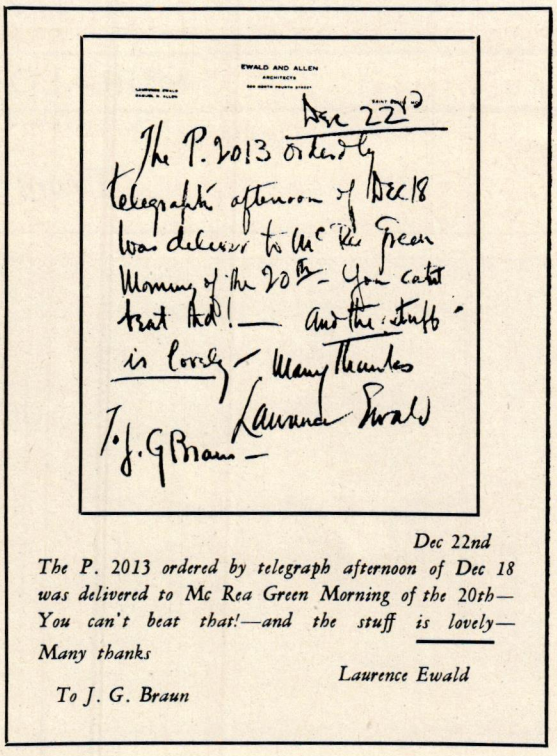
MURAL-TEX
For Textured and Relief Decoration

ARCHITECT'S SERVICE—We maintain a special service for architects, and will be pleased to discuss your textural finish problems with you. Write Dept. K.

Manufactured by
THE MURALO COMPANY, Inc.
Founded 1894
Specializing Exclusively in Decorative Wall Coatings
Cold Water Paints, Wall Sizes and Patching Plaster
STATEN ISLAND, NEW YORK

MAIL THIS COUPON
The Muralo Co., Inc., Staten Island, N. Y.
Please forward a copy of your brochure on MURAL-TEX and specification forms.
Name.....
Address.....K





Dec 22nd

The P. 2013 ordered by telegraph afternoon of Dec 18 was delivered to Mc Rea Green Morning of the 20th— You can't beat that!—and the stuff is lovely— Many thanks

Laurence Ewald

To J. G. Braun

"You Can't Beat That!"

(Referring to Service)

* * * *

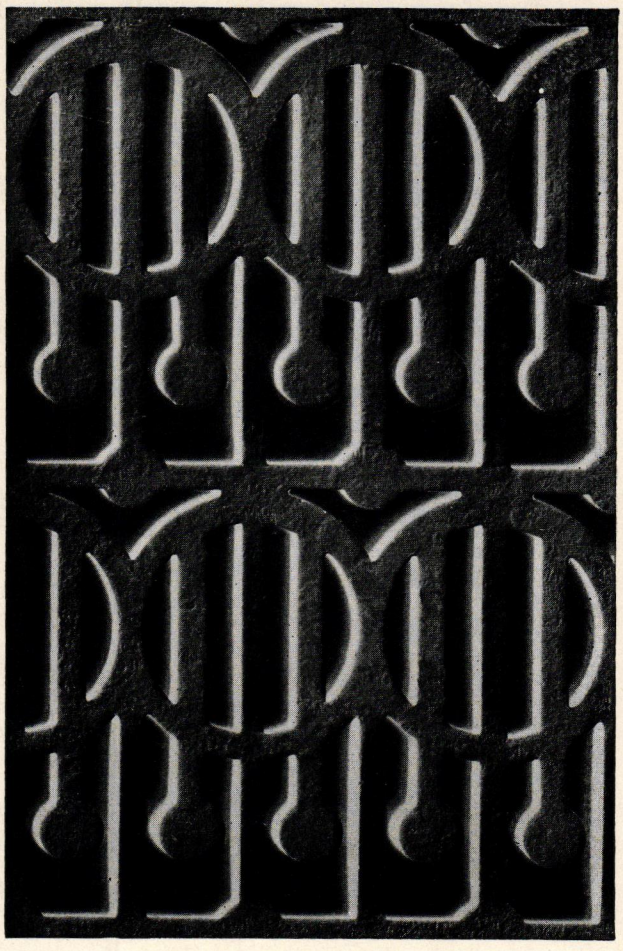
"The Stuff is lovely!"

SO writes Mr. Laurence Ewald, of EWALD & ALLEN, *Architects*, Saint Louis, Mo., in an unsolicited appreciation of Perforated Steel Sheets . . . . and immediate service! (See facsimile above.)

Just Issued

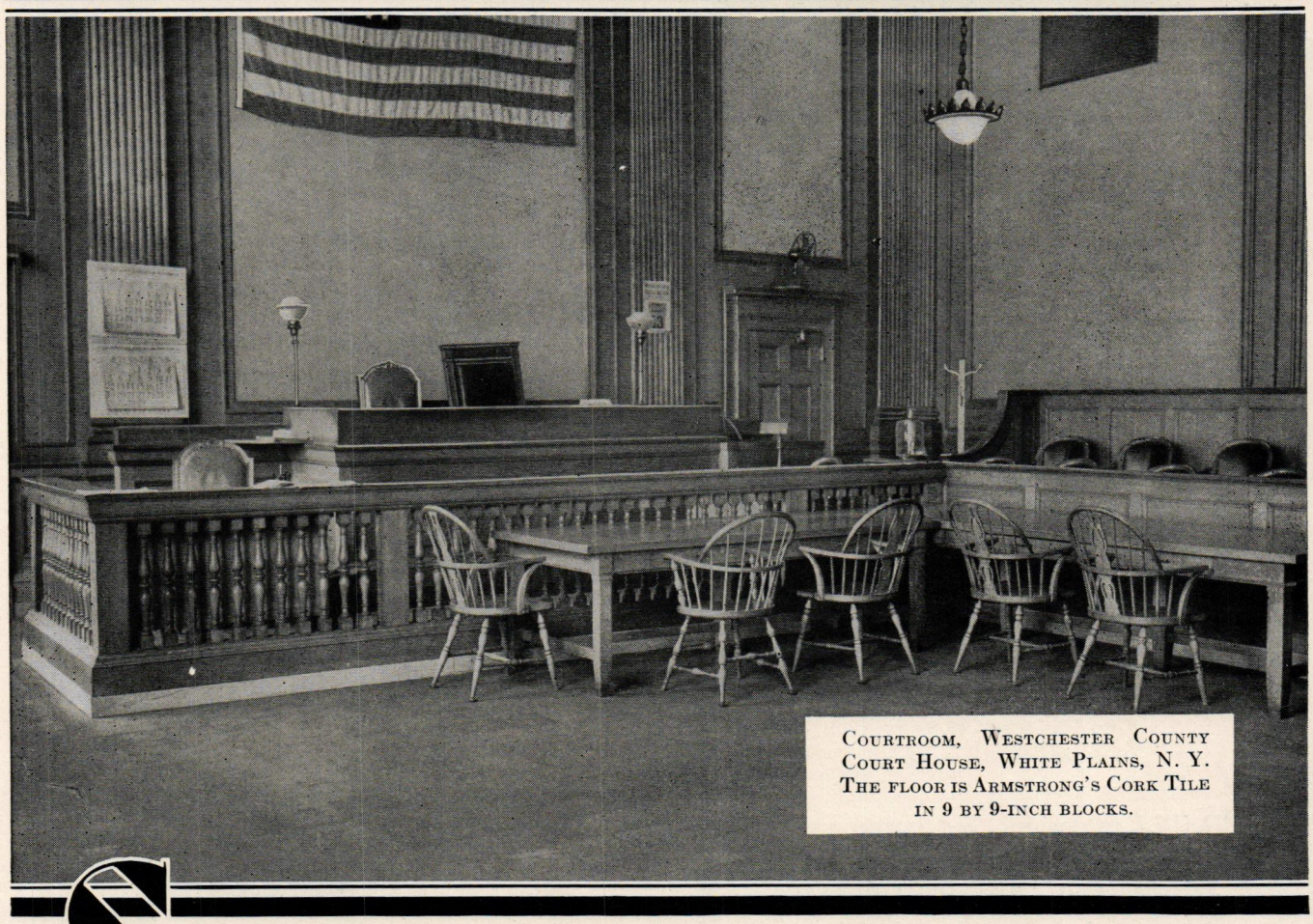
CATALOG No. 26, just issued, will reveal to you the beauty of twenty-seven different designs in Perforated Steel Sheets, with many examples of their use and pages of related details.

CATALOG No. 26 is necessary for your files. A copy will be mailed to you on receipt of request.



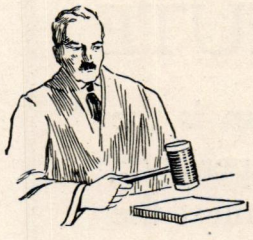
J. G. Braun Company

CHICAGO 609 SOUTH PAULINA STREET
NEW YORK 537 WEST 35TH STREET
SAN FRANCISCO 1088 HOWARD STREET



COURTROOM, WESTCHESTER COUNTY COURT HOUSE, WHITE PLAINS, N. Y. THE FLOOR IS ARMSTRONG'S CORK TILE IN 9 BY 9-INCH BLOCKS.

SILENCE *in the Courtroom!*



Doubly assured by a hand-laid floor of Armstrong's Cork Tile

OYEZ! Oyez! The next case on the docket is "Floors of wood and floors of stone versus floors of quiet Armstrong's Cork Tile—"

Day after day this case is tried in the offices of architects and builders throughout the country, and time after time this decision is handed down:

"Floors of wood and floors of stone have many advantages. But a floor of Armstrong's Cork Tile has all of these advantages, plus a footeasy comfort, and a cushioning tread that deadens every sound—keeps silence unbroken."

Wherever silence and comfort are major considerations, a floor of Armstrong's Cork Tile is without equal. Furthermore, it is easy to install, in new construction or over old floors, and cost is moderate. The natural durability of compressed cork curlings makes satisfactory wear certain, even under heavy traffic.

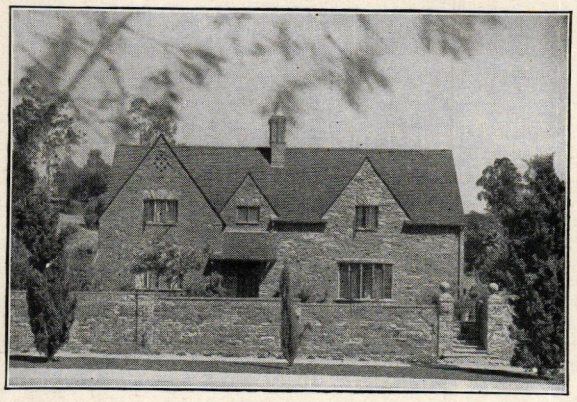
But Cork Tile is not only a practical floor. As though laid by the hands of Old World master tilers, these floors of mellow brown combine rich beauty with a pleasing dignity. Armstrong's Cork Tile comes in three shades of brown, and a wide variety of sizes, enabling the architect to create floor designs in keeping with any desired interior effect.

Judge for yourself! Send for the 48-page booklet "Custom-Built Floors of Cork." Cork Tile and Linotile designs and installations illustrated in full colors. A wealth of information about these two modern types of resilient floors. Write to the Armstrong Cork Company, Custom Floors Department, Lancaster, Pennsylvania.

ARMSTRONG'S CUSTOM-BUILT FLOORS

Cork Tile *Linotile*

Are You Winning Some Competition This Month?



H. Roy Kelley, Architect, took first prize in House Beautiful's National Competition with this Pasadena house.

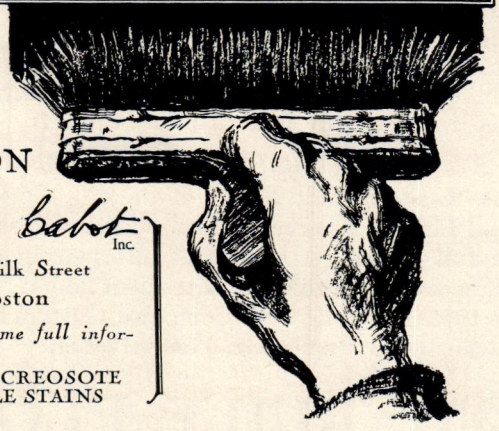
SIMPLE in design—but nothing was overlooked! And because nobody can overlook the roof of a house, the architect and the builder played safe, and used the best-looking, most durable, and most economical of all shingle stains.

Cabot's

Creosote Shingle and Wood

Stains

Send in the coupon below for full information



COUPON

Samuel Cabot Inc.

141 Milk Street
Boston

Please send me full information on
CABOT'S CREOSOTE SHINGLE STAINS

Name .....

Address .....

P.P.-6-29

Stewart offers architects

Good Fence—

and real co-operation

The Stewart representative who calls on you is an experienced fence specialist—ready not only to sell you *good* fence, but also to give you a direct service, in counsel or erection, from the oldest and largest fence building concern in America. Send for the catalog—make use of Stewart service.

The Stewart Iron Works Co., Inc.
504 Stewart Block, Cincinnati, Ohio

Representatives in all Principal Cities

Stewart

THE CUTLER MAIL CHUTE

In its perfected form is the outcome of long experience, and is designed to meet the requirements of public use under Postoffice Regulation. It is simple and substantial in design and construction, durable in finish, and has an Architectural quality which is appreciated and much commended by Architects.

Full information, details, and specifications on request.

THE CUTLER MAIL CHUTE CO.
GENERAL OFFICES AND FACTORY
ROCHESTER, N.Y.

BLUE RIDGE POLISHED WIRE GLASS

Quality—Beauty

Genuine Polished Plate Wire Unmarred by Bubbles

BLUE RIDGE Polished Wire Glass satisfies a long-existing demand of the architects for dependable quality where fire-retardant glass is required for industrial, private, semi-public and public buildings.

It is distinguished by its freedom from bubbles around the wire, uniformity of wire mesh, glass quality, and highly polished surfaces. Blue Ridge Polished Wire Glass is made in ¼ in. thickness, in sheets up to 144 in. long and 48 in. wide.

BLUE RIDGE GLASS CORP.
KINGSPORT, TENNESSEE

Manufacturers of
SUPER-QUALITY ROLLED AND POLISHED GLASS
Western Sales Offices: **55 East Washington Street, Chicago, Ill. General Motors Bldg., Detroit, Mich.**
Eastern Sales Offices: **Metropolitan Building, 1 Madison Avenue, New York, N. Y.**



The New Jersey Bell Telephone Building at Newark, N. J. Voorhees, Gmelin and Walker, architects.

The Stairs in This Entire Building have

NON-SLIP Alundum Aggregate Treads

OUR Non-Slip Treads are made of granulated marble and "NORTON" Alundum abrasive aggregate, bonded with cement and reinforced with steel rods. For landings and platforms we supply Non-Slip Tiles made of the same aggregate, and both tiles and treads are installed in the building by marble setters. Strings and risers can be either of marble, as shown, or of pressed steel. Nosings are supplied in choice of six types, and by combination of tints in alundum, marble granules and cement, any desired color effect may be obtained.

Write for descriptive booklet.

L. DEL TURCO & BROS., INC.
HARRISON, NEW JERSEY

NON-SLIP ALUNDUM AGGREGATE TREADS



To architects and decorators we offer facilities that have made the name Sterling Bronze synonymous with the most distinguished décors in metal, marble and glass . . . You are invited to make use of our showrooms in New York City . . . or to consult us about the creation of individual work from special designs.

STERLING BRONZE COMPANY, INC.

18 East 40th Street . . . . . New York City



See how the period theme is forged by means of the green Jaspé floor and harmonizing woodwork.

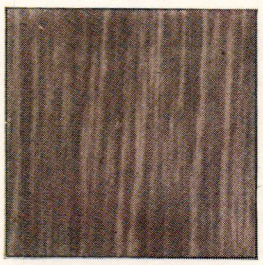
Self-Expression *in a* PERIOD ROOM . . .

Easy, now, to part with period room prejudice . . . . since modern floors permit originality of ideas . . . . .

MANY architects will not plan period rooms. "We are denied any originality of purpose," they say. But do they not forget something? For the quaint charm of period rooms—apparently old but actually new—can be guaranteed by modern floor treatment. And so this feeling is beginning to disappear—since modern floors—Armstrong's Linoleum Floors—assure the proper period effect while introducing the new note.

Introduced, too, are the inherent qualities of this modern linoleum. Now linoleum floors are beautiful—and resilient, lasting and safe. Polishing and cleaning are facilitated by Armstrong's Accolac Process, which provides a lustrous lacquer finish that resists dirt and grease.

We will gladly send you pattern colorplates and samples of this new linoleum. Your request brings them promptly. Armstrong Cork Company, Floor Division, Lancaster, Pennsylvania.



Taupe Jaspé No. 12.

Look for the CIRCLE A trade-mark on the burlap back

Armstrong's Linoleum Floors

for every room in the house



Embossed Inlaid No. 5216.

PLAIN - - INLAID - - EMBOSSED - - JASPÉ - - ARABESQ - - PRINTED *and* ARMSTRONG'S QUAKER RUGS

Sand Blast *proves* Liquid Granite *harder than glass*



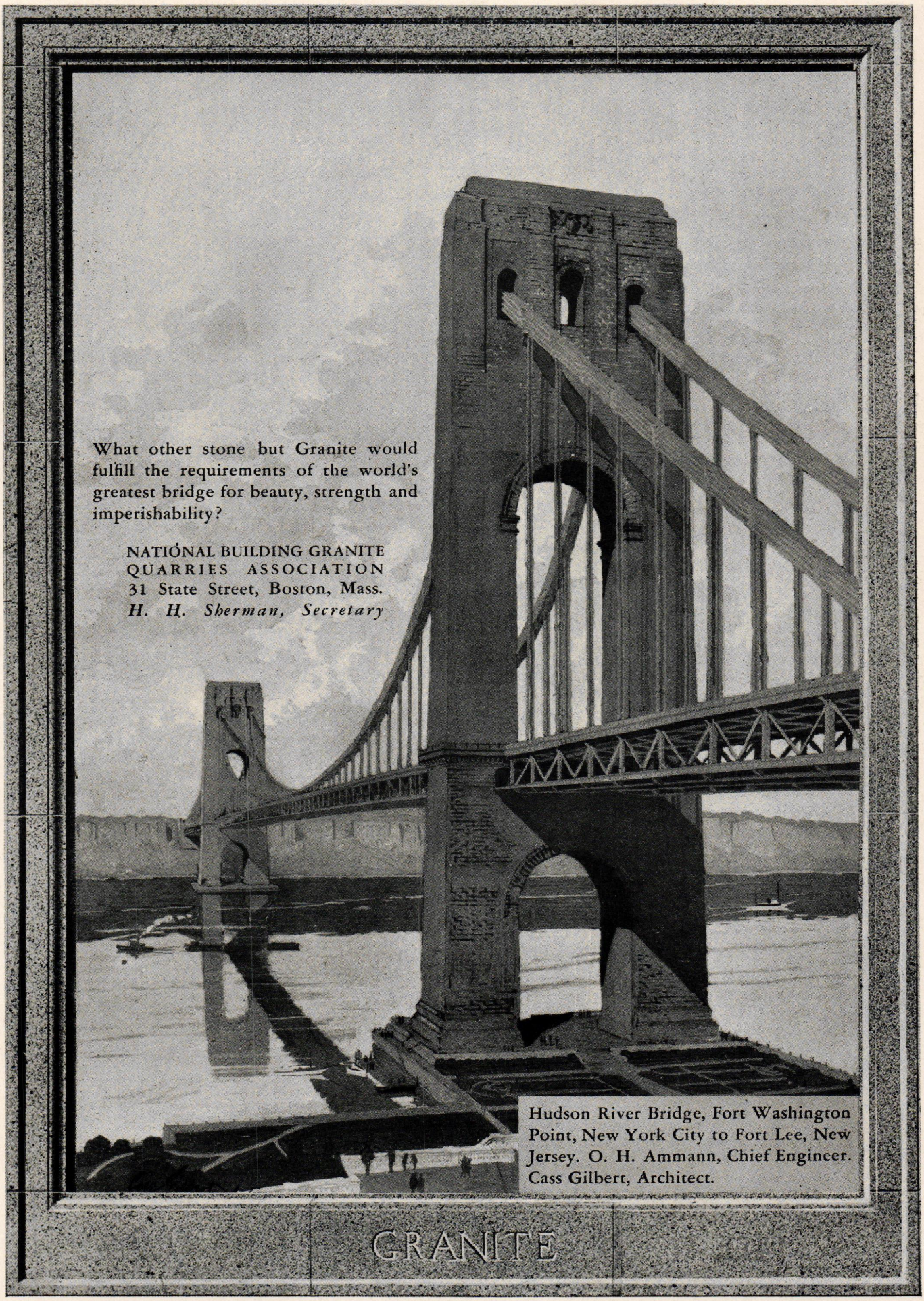
In this terrific test an independent laboratory placed a panel finished with Liquid Granite Floor Varnish beside a piece of glass and submitted both to a blast of sand under pressure. Trial after trial showed that definite sand blasting or marring of the glass occurred before the varnish was affected in any way. After the blasting had continued to a point where the glass became entirely opaque, the finish on the wood panel still retained its body and the gloss was but slightly dimmed.

When you specify Liquid Granite for floors or woodwork you give your client more in wear and service than he expects. Protect what you have built into any structure. Use a varnish that measures up to the standards you set throughout a building. Liquid Granite costs no more than less durable finishes. The architectural department will give you all the facts—write for them.

Architectural department will furnish complete details

BERRY BROTHERS INC.
Varnishes Enamels Lacquers
Detroit, Michigan *Walkerville, Ont.*

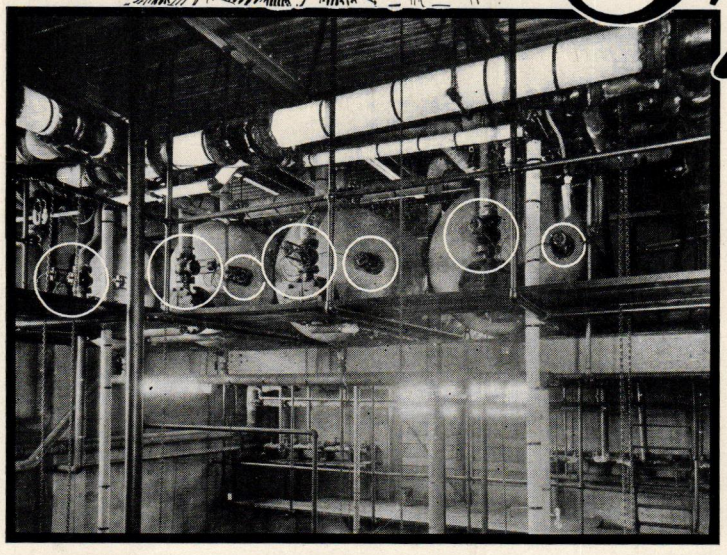
Manufacturer of wear resisting architectural finishes


What other stone but Granite would fulfill the requirements of the world's greatest bridge for beauty, strength and imperishability?
NATIONAL BUILDING GRANITE QUARRIES ASSOCIATION
31 State Street, Boston, Mass.
H. H. Sherman, Secretary
Hudson River Bridge, Fort Washington Point, New York City to Fort Lee, New Jersey. O. H. Ammann, Chief Engineer. Cass Gilbert, Architect.
GRANITE

Engineering Achievements and the Perfect School House



Sylphon
TRADE MARK
Temperature CONTROL



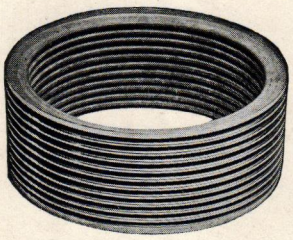
Shown above are four Sylphon Regulators installed on storage tanks in the new Roosevelt School at Des Moines, Iowa. Sylphon Temperature Regulation is an important factor in maintaining an even school-room temperature, and in regulating the brine cooled drinking water system.

Specified for Many of the Nation's Finest School Buildings

MODERN engineering skill has given to America, adequate heating plants, efficient ventilation, and brine cooled drinking water systems to keep pace with its thousands of splendid examples of school architecture.

Sylphon Temperature Control has contributed largely to these heating and refrigerating triumphs. In the Nation's *great hotels, industrial plants,—office buildings and hospitals too, Sylphon Temperature Regulators are performing, without supervision or repair, a service of highest dependability.*

The Sylphon Bellows

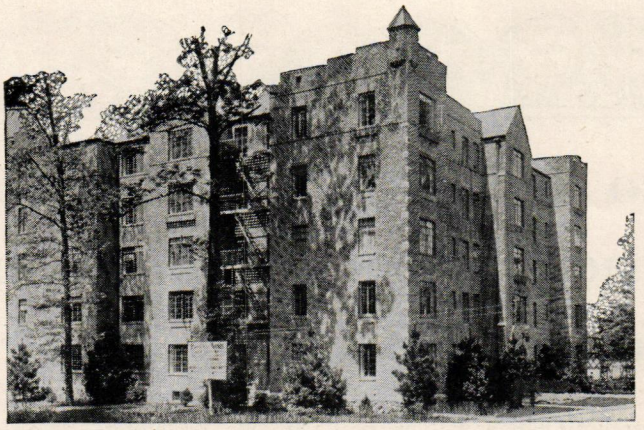


All Sylphon Instruments, whether designed for the control of temperatures or pressures of air, liquids or gases, for the control of brine cooled refrigerating systems, or the maintenance of predetermined room temperatures, have as their motor element, *the original* and only genuine Sylphon Bellows. This, the most sensitive, flexible and durable expansion element known to science, was originated and patented by The Fulton Sylphon Company.

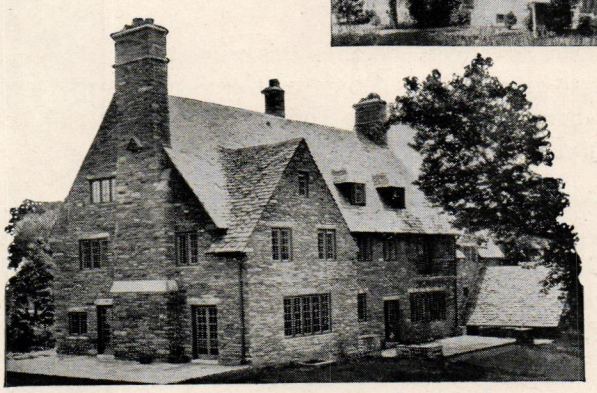
Whether the job be large or small it will pay you to install Sylphon Instruments. You are invited to submit to our engineers (without obligation) problems involving the use of Sylphon Specialties
Write for Bulletin PT-110 and PT-106

THE FULTON SYLPHON COMPANY
KNOXVILLE, TENNESSEE

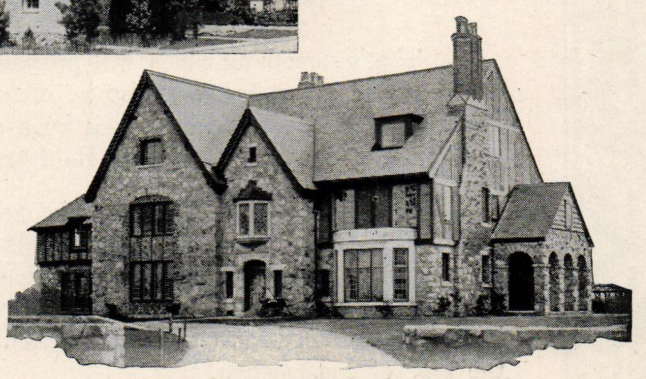
Representatives in all Principal Cities in U. S. A.—European Representatives, Crosby Valve and Engineering Company, Ltd., 41-2 Foley St., London, W. 1. England—Canadian Representatives, Darling Bros., Ltd., 140 Prince St., Montreal, Que., Canada



MAFTEX Structural Insulating Board used as a plaster base and sound deadener on dividing partition walls of Parkway Arms Apartment, Larchmont, N. Y.
Radding Construction Co., Larchmont, Builders, N.Y.



MAFTEX used for entire roof insulation in fine Philadelphia residence.
H. Louis Duhring, Philadelphia, Pa., Architect



MAFTEX used in walls and floors as sound deadener and as stucco base on part of exterior in this beautiful Lewiston Heights, N. Y., residence.
John Smith & Son, Niagara Falls, N. Y., General Contractor

Sound construction -plus the added value of insulation

On any type of construction the use of MAFTEX insures a sound job structurally as well as one with high insulating value—at no increase in cost over the modern uninsulated structure.

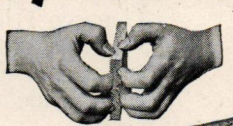
Yet a MAFTEX insulated structure has greater saleability and "rentability"—saves 20 to 30% in fuel bills—and increases comfort summer and winter.

MAFTEX provides a side-wall sheathing stronger than wood—a tremendous bond with plaster—an effective deadening of sound between floors and walls. It is of single-ply construction, easily handled, quickly installed and economical in cost. It is moisture-proof, is not attacked by rats or vermin, and does not mold nor disintegrate.

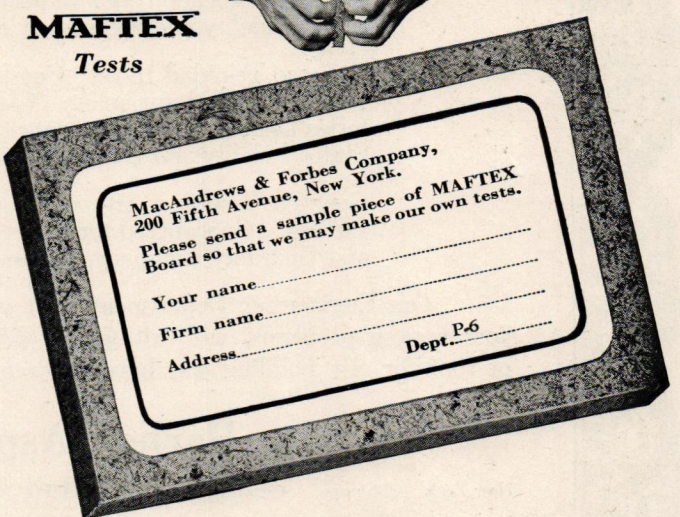
MAFTEX is the ideal four-in-one board, combining Insulation, Sheathing, Plaster Base and Sound Deadening.

To convince yourself of the many good qualities of MAFTEX, send for a sample and test it yourself.

Make Your Own **MAFTEX** *Tests*



SEND FOR SAMPLES



MACANDREWS & FORBES COMPANY
Business Established in U. S. A., 1870
200 FIFTH AVENUE, NEW YORK

MAFTEX

The "Thermal-Insulating" Board that has Structural Strength

Genasco Trinidad Bonded Roofing —backed by a surety bond for 10, 15 or 20 years!

That's something which will interest you, Mr. Architect—because this newest development in roofing will also be of interest to your clients. A line of Genasco Trinidad Bonded Roofing, backed by a surety bond issued by The United States Fidelity and Guaranty Company, Baltimore, Maryland!

When you specify Genasco Trinidad Bonded Roofing, you are absolutely sure of satisfactory service—and once the roof is on you need never give it another thought. Applied in accordance with our specifications by Genasco approved roofing contractors—thoroughly experienced in applying our roofings—Genasco Trinidad Bonded Roofings are guaranteed for ten years, or fifteen years, or twenty years—depending upon the type of construction.

There is a Genasco Trinidad Bonded Roofing for buildings of every type—for flat or steep roofs—for use over boards, concrete, gypsum, or tile.

Genasco Trinidad Bonded Roofings, made with alternate layers of Trinidad Lake Roofing Asphalt—nature's own waterproofer—and layers of Genasco all-rag felt, now include the following:

Genasco Trinidad 20-year Bonded Roofing with slag, crushed stone or gravel surfacing. Class A Underwriters' Laboratories Classification—guaranteed twenty years by The United States Fidelity and Guaranty Company, Baltimore, Maryland.

Genasco Trinidad 15-year Bonded Roofing with slag, crushed stone or gravel surfacing. Class A Underwriters' Laboratories Classification—guaranteed fifteen years by The United States Fidelity and Guaranty Company, Baltimore, Maryland.

Genasco Trinidad 10-year Bonded Roofing with smooth surface. Guaranteed ten years by The United States Fidelity and Guaranty Company, Baltimore, Maryland.

Our Engineering Department is at your service to work with you on any of your roofing problems, and will gladly give you their opinion as to the best type of roof for any building you have on your boards.

The Barber Asphalt Company

New York Chicago Pittsburgh **Philadelphia** St. Louis Kansas City San Francisco

Genasco

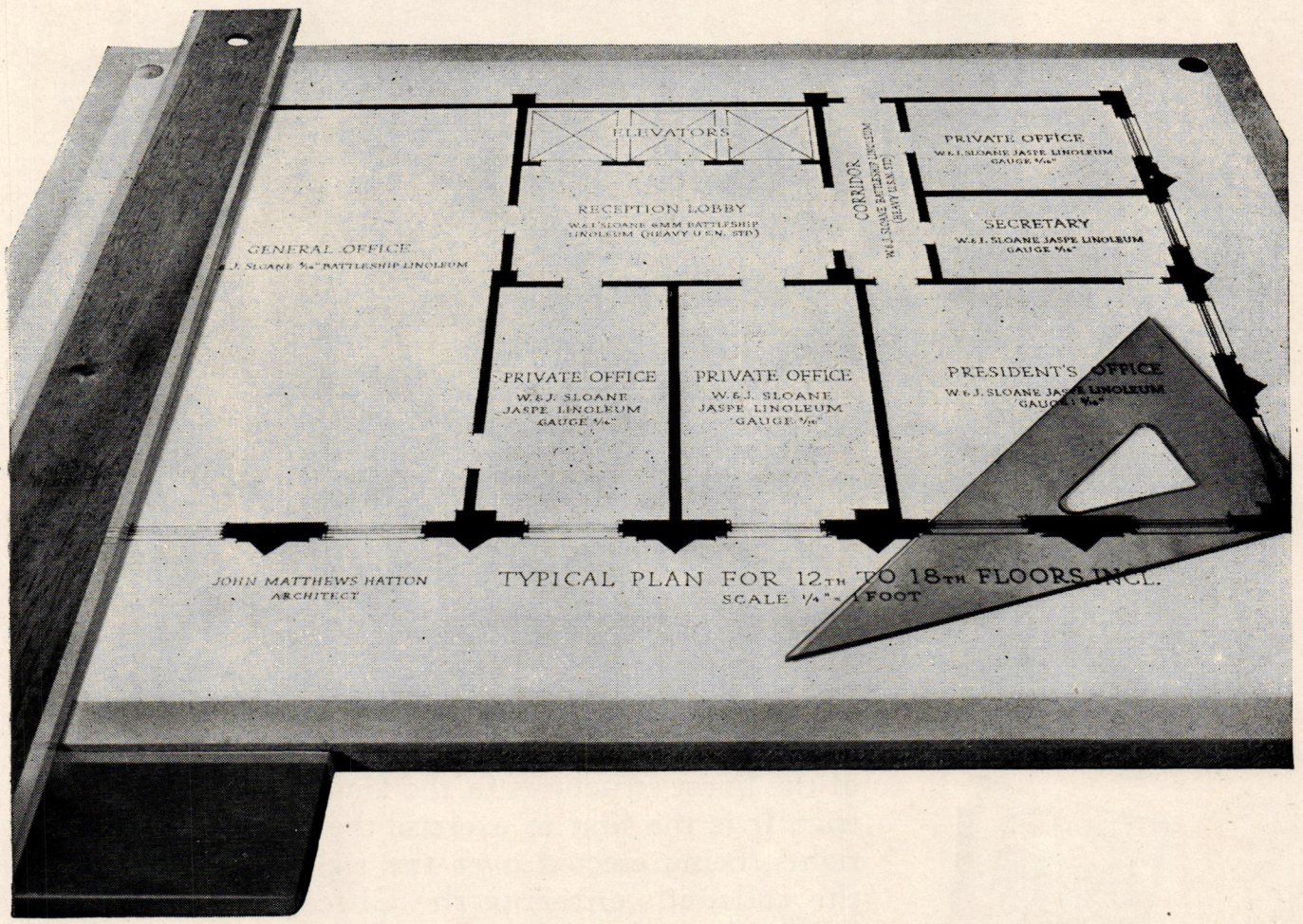
Reg. U. S. Pat. Off.

WITHSTANDS THE TEST OF TIME

Trinidad Bonded Roofing

LINOLEUM FLOORING PROBLEMS...

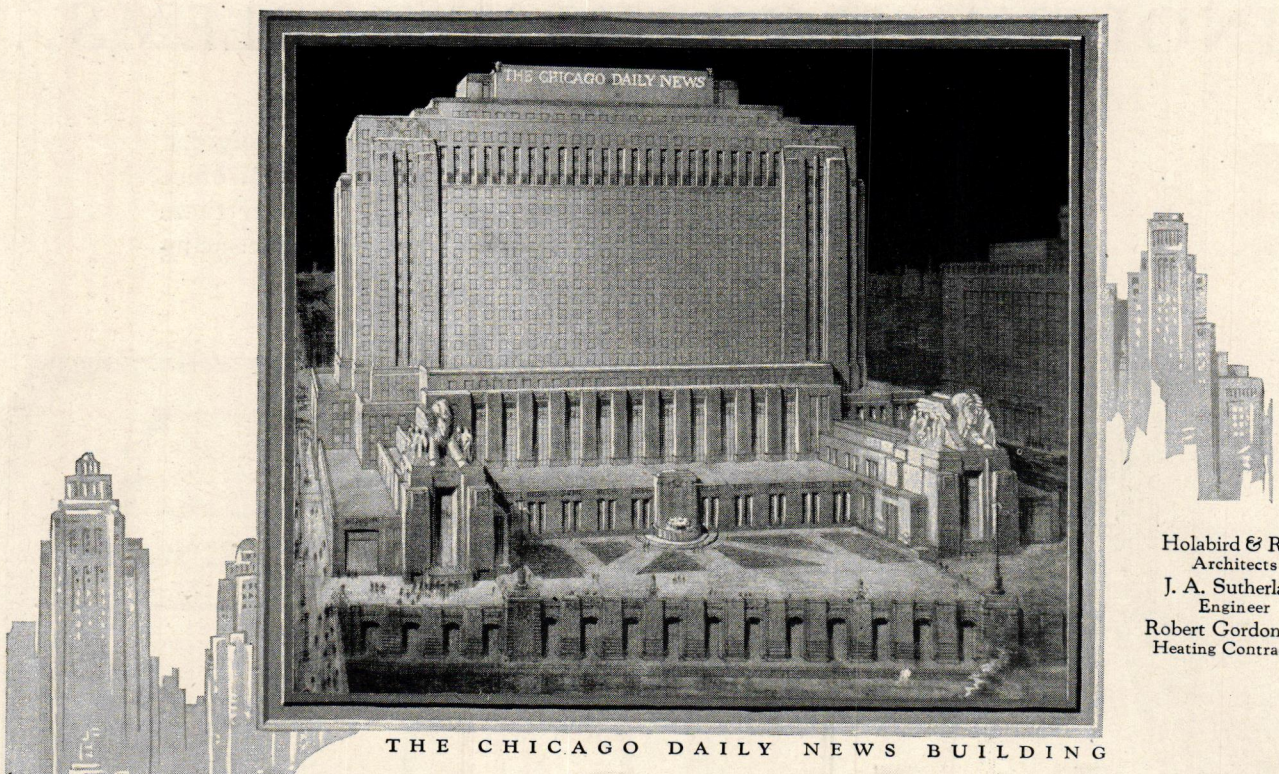
No. 1 Problem: 2310 square feet of office floor space subdivided into corridors, reception rooms, general office space and private offices. How to cover these floors most economically without sacrificing quality or appearance.



Solution: The architect confronted with the above problem solved it with the aid of the W. & J. Sloane Architects' Service Division. Different gauges of linoleum were specified according to traffic. Where wear would be heaviest, as in corridors and general office space, heavy gauges of Battleship Linoleum were called for. For private offices where traffic would be lighter, Jaspé Linoleum.

The W. & J. Sloane Architects' Service Division is at your disposal in planning linoleum floors. Send in your problems or ask representative to call. This service is without charge or obligation. Send for Architects' Data Book (A. I. A. size). Write Architects' Service Division, W. & J. Sloane, 577 Fifth Avenue, New York.

W. & J. SLOANE LINOLEUM



THE CHICAGO DAILY NEWS BUILDING

Holabird & Root
Architects
J. A. Sutherland
Engineer
Robert Gordon, Inc.
Heating Contractors

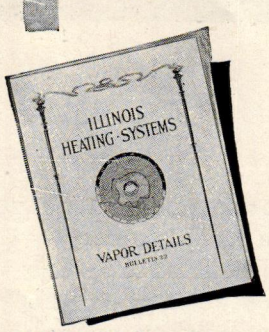
ILLINOIS
HEATING SYSTEMS

The "*home town paper*" will enjoy the utmost in *heating comfort* and *satisfaction*

THE $8,000,000 CHICAGO DAILY NEWS Building facing on the Chicago river is one of the finest structures in the famous loop district. It is the first to exercise the so-called air rights, being erected over the right-of-way of the railroads entering the Chicago Union Station from the north.

The heating requirements, which are most exacting are being met with the dependable ILLINOIS *System* insuring durability of apparatus, low maintenance and a marked fuel economy as well as flexibility, noiseless operation, and easy control of room temperatures.

Specifying ILLINOIS *is an insurance policy of satisfaction*



A COMPLETE description of ILLINOIS *Vapor Systems* is given in BULLETIN No. 22 which really should be in the reference file of all who have to do with the heating of buildings. Your copy will be sent upon request.

REPRESENTATIVES IN 40 CITIES OF U.S.A.

ILLINOIS ENGINEERING COMPANY

ROBT. L. GIFFORD President INCORPORATED 1900

CHICAGO



QUALITY STEEL PRODUCTS for ALL MODERN BUILDINGS

Developed in accord with architectural requirements of quality and utility, the complete lines of Truscon Steel Building Products include individual products peculiarly suited to every type of building and structural condition. Large manufacturing facilities to insure fine workmanship, local warehouses to guarantee prompt deliveries, and a nation-wide engineering organization to render direct personal service supplement the inherent merits and distinctiveness of these products. We desire to cooperate with members of the profession in every way by furnishing detailed suggestions, complete information and useful literature.

TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO

Trussed Concrete Steel Company of Canada, Limited, Walkerville, Ont.

Offices in Principal Cities of the United States and the Dominion of Canada

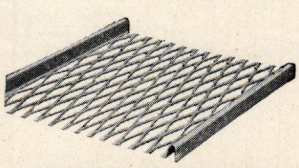
TRUSCON STEEL BUILDING PRODUCTS

STEEL WINDOWS—STEEL DOORS—ROOFDECKS—METAL LATH—STEEL JOISTS—REINFORCING STEEL—ROAD REINFORCEMENT—ENGINEERING SERVICE

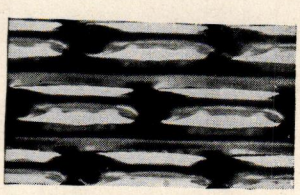


What About the Core?

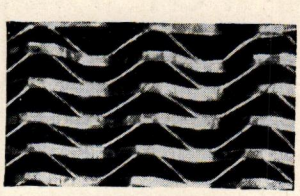
To be good and sound, for long keeping, an apple must have a healthy core. The buildings of tomorrow demand this same qualification — and the metal lath you specify for wall, ceiling and concrete floor construction must be of the highest grade. Kalman offers you an unusually high-quality line of metal lath to choose from. Specifying any one of them will give you the permanency that is demanded in improved, fire-safe construction.



3/8" Rib Kalmanlath



Troff Kalmanlath



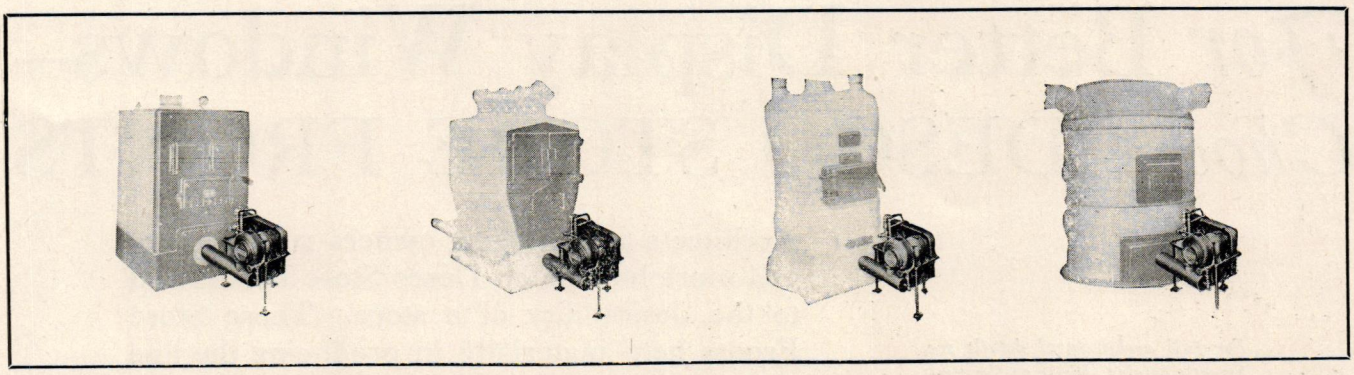
Cup Kalmanlath

KALMAN STEEL COMPANY

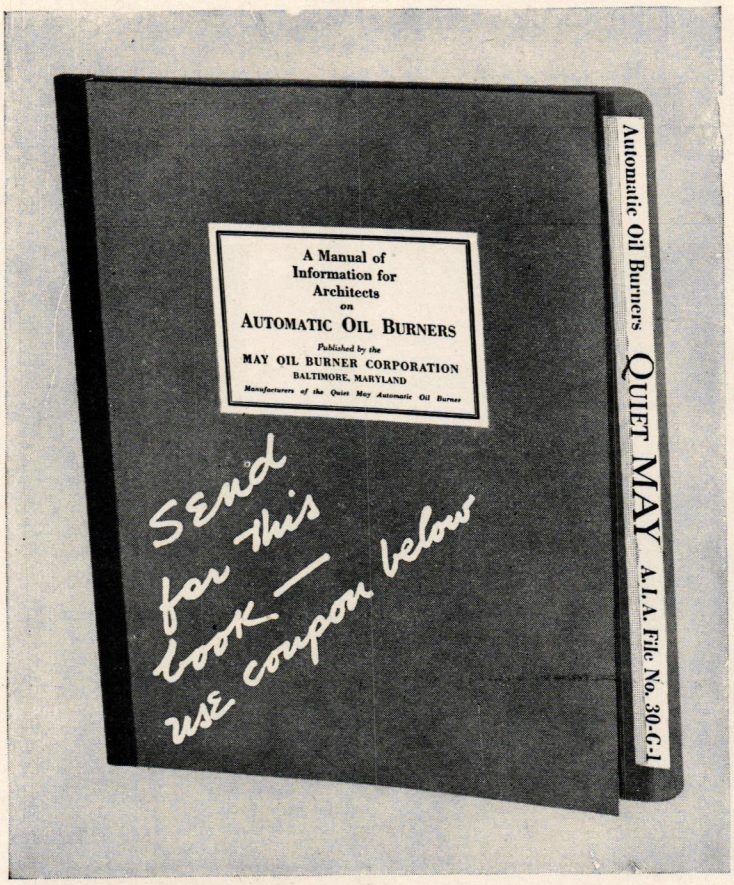
KALMAN STEEL

MODERN, FIRE-SAFE BUILDING PRODUCTS

Atlanta
Baltimore
Boston
Charlotte
Chicago
Columbus
Buffalo
Detroit
Houston
Kansas City
Dayton
Milwaukee
Minneapolis
Newark
New York
(Export Office—New York)
New Haven
Niles
Philadelphia
Pittsburgh
St. Paul
Syracuse
Youngstown
Washington, D.C.



WHEN OIL is chosen as the fuel for any standard heating unit, The May Automatic Oil Burner offers the mechanical means of producing a flame inside the boiler or furnace.



ARCHITECT'S MANUAL

Our Manual of Information for Architects on Automatic Oil Burners is a useful book in connection with the installation of any standard make of oil burner. We have also included in the Manual the latest *Regulations of the National Board of Fire Underwriters* covering oil burners. (Note: Many architects' offices have not as yet secured these regulations covering oil burners. For this reason we included them in our Manual on automatic oil burners.)

A PICTURE BOOK FOR THE HOME OWNER

We have prepared a picture book with illustrations in perspective, realistically rendered, with walls cut away to show the various units that make up a complete heating system which uses oil as the fuel.

Either or both of these books will be sent to you. Use coupon below.

MAY OIL BURNER CORPORATION

Baltimore - - Maryland

PP-69

MAY OIL BURNER CORPORATION
BALTIMORE, MARYLAND

Please send me items checked below:

☐ Manual for Architects
☐ Book for Home-Owner

Individual_____

c/o Firm_____

Street_____

City_____ State_____

For Better Display Windows— *Choose* DESCO STORE FRONTS

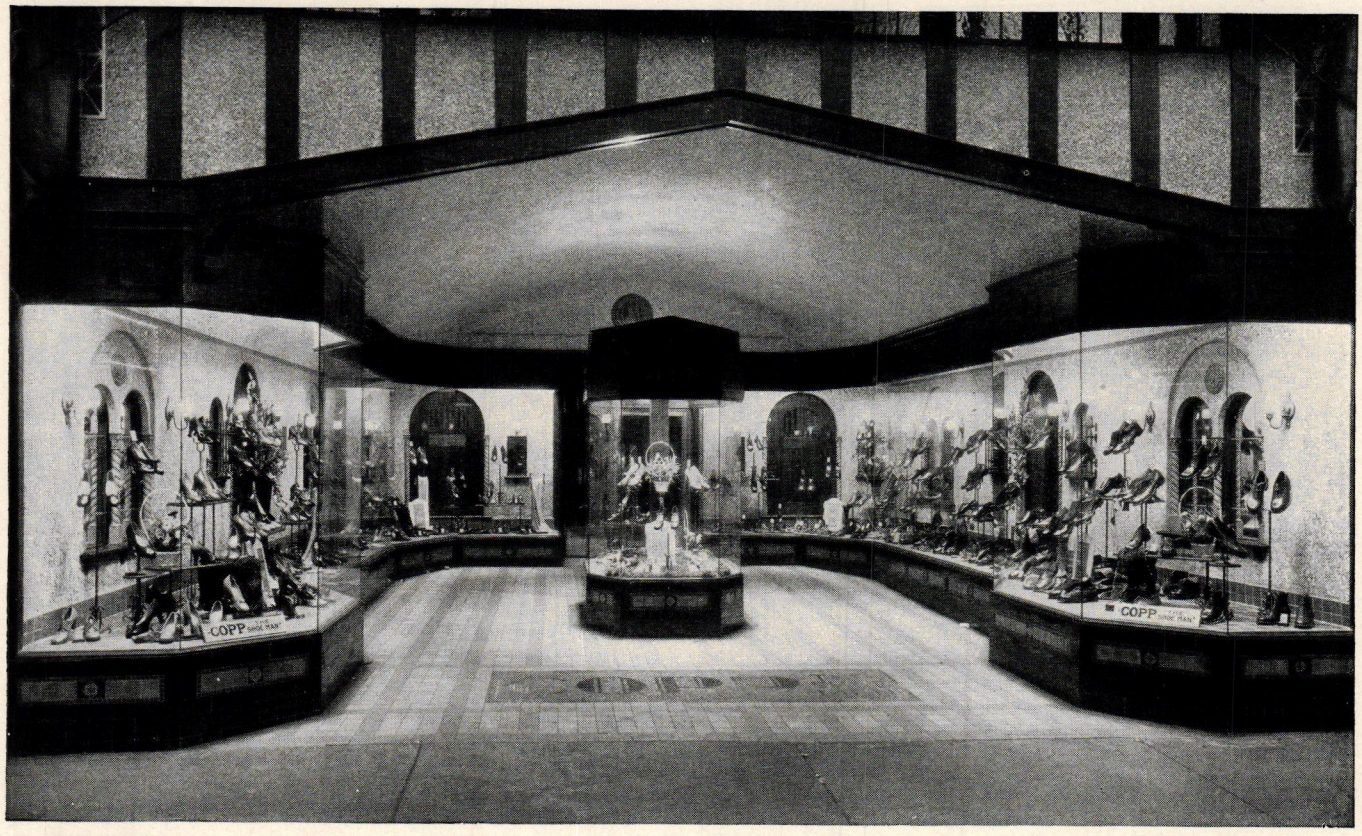
For full architectural details see Sweet's catalog. Write us for complete working data and price list. Remember, too, wherever you are there is a distributor near you. We also carry a complete line of "Desco" construction material in our New York City warehouse.

Architects and building owners realize more and more how much Desco Store Fronts add to the desirability of a store. These Store Fronts help materially in producing the fine display windows so essential to modern merchandising. And the wide variety in which they are offered—copper (plain or embossed), bronze and other non-ferrous metals—permit their use for practically any architectural style. Their flexibility, too, protects the glass against heavy wind pressure. All concerned will be better satisfied if you choose Desco.

DETROIT SHOW CASE CO.
1670 W. Fort Street · Detroit, Michigan

New York City Warehouse—344-346 East 32nd Street
Pacific Coast Office—520 Skinner Bldg., Seattle, Wash.

Desco Store Fronts furnished for Copp the Shoe Man's Arcade, Vancouver, British Columbia



Desco METAL STORE FRONTS

Brasscrafters Bathroom and Lavatory Accessories

are in Thousands of Homes and Buildings .... on Ships Sailing Inland Waters and the High Seas ....

because these modern accessories give the utmost in refined comfort, beauty and durability. Complete range of styles and prices shown in the new Hand Book "O"—free to the profession.



The pride of the old guildsmen is in the Brasscrafters of Cambridge. Their mark is a Symbol of Quality in Medicine Cabinets, Mirrors, Glass Shelves, Towel Bars, Tumbler and Tooth Brush Holders, Soap Dishes, Paper Holders, Hooks, Bath Tub Seats and Sprays.

THOUSANDS of up-to-date bathrooms and lavatories — afloat and ashore—are made attractive and convenient by the use of the Brasscrafters accessories. Indented in the metal of each distinctive product, The Brasscrafters TRADE MARK trade-mark has circled the globe on ocean-going liners; it has coursed the waters of the Great Lakes; it is a symbol of quality on accessories installed throughout the entire land.

The Architect Must Give the Answer

A perfect understanding by architects of the full scope of the Brasscrafters line of accessories can have but one effect—increased creature comfort as well as harmony and beauty in bathrooms and lavatories. Year by year the proper architectural treatment of bathrooms as a whole is receiving more and more consideration. Important details, like accessories, are increasingly becoming part of the specifications. In this "age of quality" architects are being consulted about harmony and permanence in *all* accessories. Formerly these were left to haphazard selection by the client after the general contractor had left the job. Soon you will be asked about the new items in the Brasscrafters catalog, for thousands of home owners and builders will be supplied with the Brasscrafters literature which describes for users the latest developments in the planning of more effective bathrooms and lavatories. The thousands of inquiries that reach us from all parts of the United States will be referred back to the consulting architect for a detailed application of the data given. By knowing and recommending the Brasscrafters line, architects will safeguard the satisfaction of every person who consults them on the subject of bathroom and lavatory accessories.

Investigate Before Specifying

Every dollar that is spent in building is either a good or a bad investment — the architect owes it to the best interests he represents to investigate every manufacturer's claims concerning quality, adaptability to a specific service, responsibility and . . . finally, price.

It is the architect's right to *demand* facts and figures, not only as to the sizes, shapes and prices of the accessories themselves, but also as to their performance in actual use. Superficial information is not the kind on which to plan successful buildings, and unless each and every item is investigated *before specifying,* investment dollars *are not* producing proper results.

A recognized standard of comparison is available to every architect in the Brasscrafters Hand Book "O"—*free* to the profession. Its range is complete—its authority is unquestioned.

Hand Book "O" places in the hands of the architect authentic and essential facts on modern bathroom accessories that are indispensable to the architect and his client. Mail the coupon below for your complimentary copy.

The Brasscrafters TRADE MARK

J. P. Eustis Manufacturing Co.
12-16 Ames Street, Cambridge, Mass.

THE J. P. EUSTIS MFG. CO.
12-16 AMES STREET (Dept. P)
CAMBRIDGE, MASS.

Please send me a copy of your Hand Book "O," which fully describes the BRASSCRAFTERS' Line. No obligation to me, of course.

Name ..... Title .....

Business .....

Address .....

City ..... State .....

THE following are a few of the many thousand installations—East, West, North and South—which convincingly convey ***the wide range of distribution*** and ***the diversified construction requirements*** to which the Brasscrafters products are adapted. Scan this list briefly. You will doubtless be familiar with the character of many of these buildings, and with the names of the architects responsible for these achievements.

ASHORE

Residences
Patrick Ford Residence, Grosse Pointe, Michigan

Apartment Houses
900 North Mich. Ave. Apartments, Chicago, Ill.

Banks
Hibernia Bank Building, New Orleans, La.

Club Houses
Women's City Club, San Francisco, Calif.

Dormitories
Harvard College Dormitory, Cambridge, Mass.

Hospital
Walter Reed Hospital, Washington, D. C.

Office Buildings
Penobscot Building, Detroit, Mich.

Y. W. C. A. Buildings
Harriet Hammond McCormick Memorial, Chicago, Illinois

Theatres
Keith-Albee Theatre, Cleveland, Ohio

Capitol Buildings
Washington State Capitol, Olympia, Wash.

Historical Building
Independence Hall, Philadelphia, Pa.

Hotels
Chateau Lake Louise, Lake Louise, Alta. (Canada)

Schools
Brasscrafters' equipment approved for all schools built by the Board of Education, Cleveland, Ohio

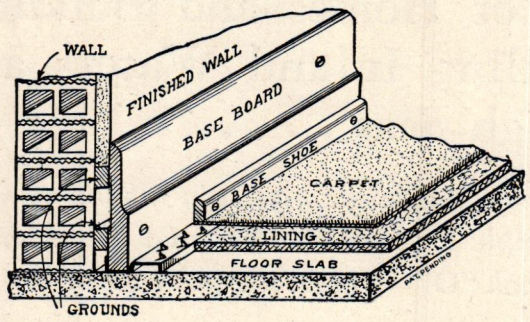
Railroad Terminals
New North Station, Boston, Mass.

ASEA

U. S. Navy
Scout Cruisers 25, 26, 27, 30 and 31

Merchant Marine
"Delta King" and "Delta Queen," San Francisco, Calif.

HOLDFAST TACKLESS CARPET STRIP



Holds carpets without tacking. Speeds laying. Gives perfectly smooth installation without depressions or exposed tacks. Most economical and dependable method of fastening carpets.

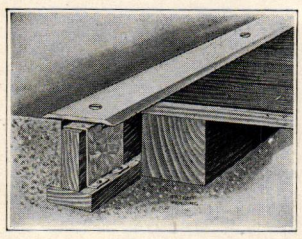
Locks under and behind baseboard. The strip is pierced for nailing to floor if additional security is required, case-hardened nails being furnished for driving into concrete. Carpets may be easily removed for cleaning or replacement without injury to carpet or strip.

The Holdfast Tackless Carpet Strip is galvanized and will last the life of the building. It is made to accommodate carpet linings of any material or thickness.

Where the baseboard is already in place, a special design is furnished that fastens in front of the baseboard and requires no drilling or plugs.

Write for illustrated circular for complete information.

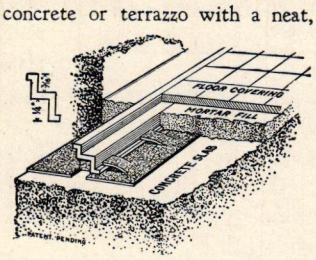
ANKORTITE FLOOR JOINERS



Eliminate forever the loose, rattling threshold plate. The Anchor assembly not only gives secure anchorage but within it is provided a tightening space which permits the threshold plate to be adjusted to take up the looseness that occurs as floors shrink or wear. Thousands of installations have been made under direction of the ablest architects. The Ankortite is simple to install, attractive and inexpensive. Detailed description in Circular "F".

RECESSED BRASS BINDING BAR

Linoleum, rubber tile or other applied floor coverings are easily and perfectly joined to concrete or terrazzo with a neat, sanitary joint by the Recessed Brass Binding Bar. It overcomes the difficulty of joining coverings to base or wall, and adds beauty to the floors. Complete description in Circular "C" upon request.



AGENTS IN PRINCIPAL CITIES

FLOOR ACCESSORIES COMPANY, Inc.

Manufacturers also of Floor Clips, Brass Stair Nosings, Linoleum Bindings and Desk Edgings

GENERAL OFFICE: KANSAS CITY MISSOURI

Jamison

OLDEST and LARGEST makers of Cold Storage DOORS



A PLANT as large and busy as this one can't afford to take chances on its cold storage doors. 96 Jamison units guard this Terminal Refrigerating and Warehousing Co. plant at Washington, D.C.

JAMISON COLD STORAGE DOOR COMPANY
HAGERSTOWN, MARYLAND, U. S. A.
2 W. 45th St., New York City; Room 1832, Builders' Building, 228 N. La Salle St., Chicago; 2650 Santa Fe Ave., Los Angeles; 333 Market St., San Francisco.

Cold Storage Doors

21 EAST 40th STREET
NEW YORK

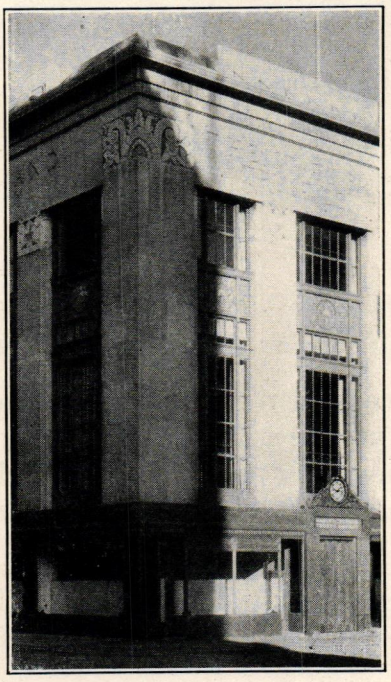
McKEOWN
BROS
COMPANY

BUILDS ROOF TRUSSES
OF WOOD FOR ALL
TYPES OF BUILDINGS

5237 SO. KEELER AVE.
CHICAGO



ST. LUKE'S ENGLISH LUTHERAN CHURCH, PARK RIDGE, ILL. ARCHITECT, E. A. NITSCHE, CHICAGO



State Bank & Trust Company
8th Ave. and 43rd St., New York City
Dennison & Hirons, Architects
Sash by J. S. Thorn Company
James Stewart & Co., Inc., Builders

Inconspicuous Operation of Banking Room Windows

PROBLEM No. 1 SECOND SERIES

IN this installation, ventilating units, between cast iron mullions, were to be operated in groups.

Control rods against the mullions are operated from cases placed near the window sills, solid bronze being used for cases, cranks and handles.

All arm sets are arranged for minimum projection, to obviate interference with draperies.

This is one of a series of sash operating problems, presented from month to month. Reprints of the entire series, in an American Institute File Folder, will be mailed on request.

Lord & Burnham Co.
Sash Operating Division
Graybar Building, New York City

Representatives in Principal Cities of the United States and Canada.



Section showing how the equipment operates the sash at the State Bank & Trust Company building.

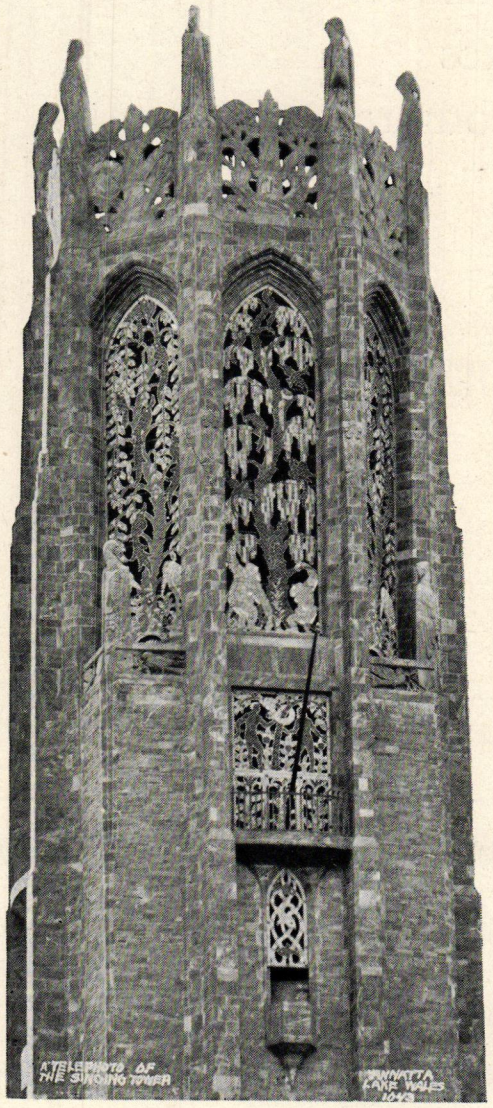
ENFIELD·TILES

In the Singing Tower

"One of the most daring and beautiful pieces of polychrome ceramics ever attempted."

"Like stained glass in a cathedral window—superbly colored, exquisitely graceful—fitting jewels for the crown of this regal structure."

We are proud to quote such opinions for we, too, believe our work to be good.



IN THE execution of these grilles, four main requirements had to be met:—

(1) A light airiness of design in keeping with the character of the Tower.

(2) 60 to 70% of free opening for the bells were placed immediately behind the grilles.

(3) Sufficient strength, not only to bear the grilles own weight, but also a possible high wind pressure.

(4) Colors to be legible at a height of 150 feet and from a radial axis of 500 feet.

That these requirements were met successfully may best be judged from a glimpse of the tower itself and from the many congratulations we have received.

Enfield's design staff is at the service of all architects interested in the use of tile. Inquiries should be addressed direct to the factory.

ENFIELD·POTTERY & TILE·WORKS·INC·

MAIN·OFFICE: ENFIELD·PENNA·

NEW·YORK·OFFICE: 101·PARK·AVENUE



The distinctive Kohler enameled iron Belmore lavatory gracefully complements the Viceroy recess bath

The importance of COLORED FIXTURES *in the bathroom*

COLORED fixtures are daily assuming greater importance in the building scheme. And it is safe to assume that their importance will continue to grow.

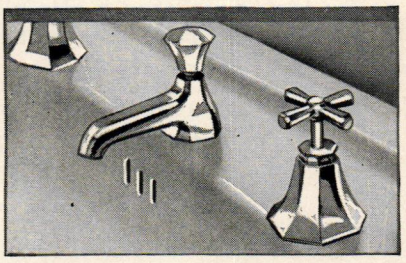
At the present moment it is strikingly apparent that the beautiful Kohler colored fixtures have much more than their beauty to recommend them. They have a newness *which is of great value to the client who is building to sell or rent.*

Instances are multiplying to show how Kohler colored fixtures attract buyers or tenants. Builders of apartments and hotels are gaining marked advantage by installing these fixtures. Architects, accordingly, are examining with increasing interest the possibilities of this ware.

The Kohler colors are delicate, restrained, lending themselves to the creation of tasteful effects of enduring charm. Their variety permits the development of a practically limitless range of attractive color schemes — and affords a most stimulating opportunity to the architect.

We especially invite you to examine Kohler colored fixtures at a Kohler display room. And we shall be glad to send you the new book described in the coupon.

KOHLER CO., *Founded 1873*, KOHLER, Wis.
Shipping Point, Sheboygan, Wis.
Branches in Principal Cities



The completing touch—Kohler "Octachrome" fittings in chromium plate

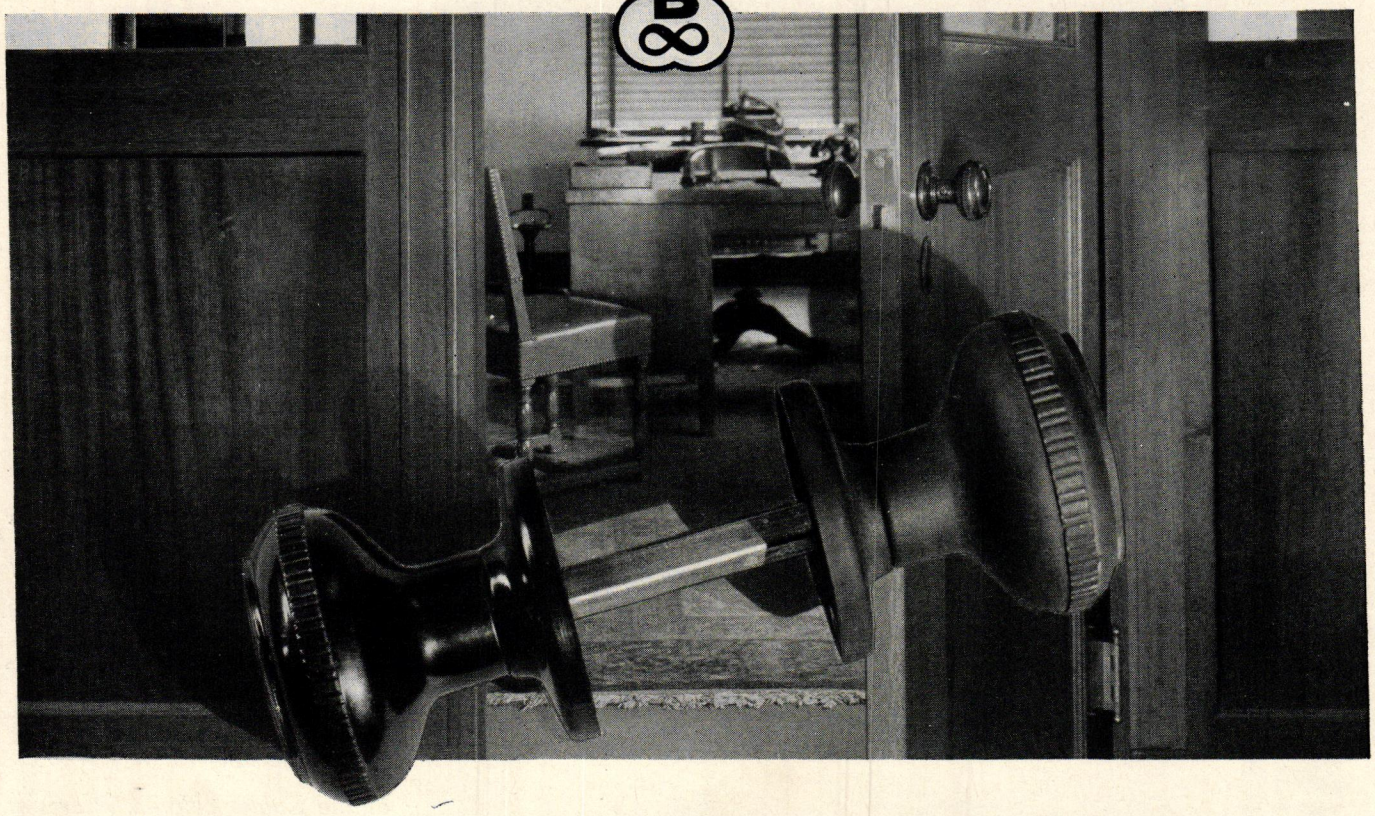
KOHLER OF KOHLER
PLUMBING FIXTURES

LOOK FOR THE KOHLER TRADE MARK ON EACH FIXTURE

New
72-PAGE BOOK
FREE
Please mail to
Kohler Co., Kohler, Wis., *for*
A helpful book for the architect. Illustrated in color. Shows bathrooms, kitchens, laundries; color schemes; floor plans; prices.

Name.....
Street.....
City.....*State*.....

© 1929, Kohler Co. P.P.-6-29



Bakelite Molded Door Knobs add to the appearance of the room

Details of office and store equipment and decoration, that once were given slight consideration, are now deemed worthy of the attention of architects and decorators. In door hardware, which always is conspicuous, the introduction of Bakelite Molded door knobs, roses and escutcheons, makes it possible to obtain these in burled walnut brown and in lustrous and dead black finishes.

The shank and knob are molded in one piece, so they are very strong. Their color penetrates through the material, so it is durable. The surface finish is acquired in the mold, and no lacquering or plating is used. They will neither rust nor stain, and never require polishing.

Bakelite Molded door knobs are made in standard sizes and types by the National Brass Co., Grand Rapids, Michigan, who will be glad to send full particulars to any architect writing for them.

BAKELITE CORPORATION

247 Park Ave., New York, N. Y. Chicago Office: 635 W. 22nd St.

BAKELITE CORPORATION OF CANADA, LTD., 163 Dufferin St., Toronto, Ont.

BAKELITE

REGISTERED U. S. PAT. OFF.

THE MATERIAL OF A THOUSAND USES

"The registered Trade Mark and Symbol shown above may be used only on products made from materials manufactured by Bakelite Corporation Under the capital "B" is the numerical sign for infinity, or unlimited quantity It symbolizes the infinite number of present and future uses of Bakelite Corporation's products."

Masterbuilt Floors

HARDENED DUST-PROOF CONCRETE

Plus Omicron

CONCRETE FLOORS are subjected to two kinds of wear—abrasion and disintegration. Abrasive wear is best minimized by Master Builders Metallic Hardner. Disintegration, however, is caused by solutions deposited upon concrete surfaces by precipitation and traffic. The attack of these mild chemical solutions, so insidious and commonplace as to pass unnoticed, is none the less real. Through their action the concrete is gradually weakened and prepared for disintegration. In the case of floors, abrasion caused by the wear and tear of traffic produces the final and visible step in the breaking down of this weakened mass. ¶ Nine years ago the chemists and engineers of the Master Builders Research Staff set themselves the task of finding the "something hidden" which would check this disintegration. Month after month, year after year, they labored with test tube and test blocks seeking for a something which, perhaps, did not exist. At times they felt that success was very close at hand, only to come against dead ends and blank walls which meant that months of wearying effort had proved futile. ¶ Then came a new clue. ¶ A new avenue of possibility was explored. A new ingredient was evolved, it was tried, and—the long sought results were achieved. This new ingredient, this discovery of Master Builders Research Laboratory was christened Omicron.

THE EXPLORER

"Something hidden.
Go and find it.
Go and look behind
the Ranges.
Something lost behind
the Ranges.
Lost and waiting
for you. Go!"

RUDYARD KIPLING

MASTERBUILT FLOORS

Masterbuilt Floors

HARDENED DUST-PROOF CONCRETE

METALICRON FLOORS

CHECK DISINTEGRATION

-as well as Abrasive Wear

COMBINED with Master Builders concrete hardners, Omicron fostered a new family of products—the first of which is Metalicron. [*]

Metalicron [Master Builders Metallic Hardner *Plus Omicron*] comes forward out of a background of nearly twenty years of successful service. During this period Master Builders Metallic Hardner has given building owners protection against abrasive wear. Scores of early installations have stood the test of wear under severe traffic conditions for almost two decades. Today, with the addition of Omicron as a new ingredient, Metalicron is destined to provide an even greater degree of permanence in industrial floors.



The floors in many plants and warehouses are continually covered with substances that cause and accelerate disintegration of the concrete. The condition pictured here is commonly observed.

Corrosion Ever Present Checked by Omicron

The effect upon concrete of the salt thrown upon icy sidewalks is well known; the short life of concrete drain tile in alkali soils needs no mention; the effect of sea water and the pitting of concrete near equipment containing even mildly corrosive liquids are equally obvious. These injurious factors are not restricted to special isolated conditions but, in one form or another, are present and active on practically all concrete surfaces, attacking the soluble particles that remain in the set concrete.

[*] Other members of the family are Colormix, which produces colored, wearproof concrete, and Master Mix, the integral hardner so widely used in commercial building construction.

METAL

Masterbuilt Floors

HARDENED DUST-PROOF CONCRETE

Omicron, now a constituent of the new Metallic Hardner, Metalicron, checks such disintegration by reducing the ratio of these soluble particles, converting them from liabilities to strength-giving factors in the structure. Mild acids and alkalis, which from one source or another come in contact with most floors, particularly in industry, now find this point of attack fortified.

So, not only is abrasive wear checked, but disintegration, that insidious and ever present enemy of concrete floors, is given no chance to weaken the structure and make it more susceptible to abrasive wear.



Abrasive wear from heavy equipment or loaded trucks is at best a severe test. Failure starts at spots where oil drippings have been absorbed and the concrete weakened by the consequent disintegration.

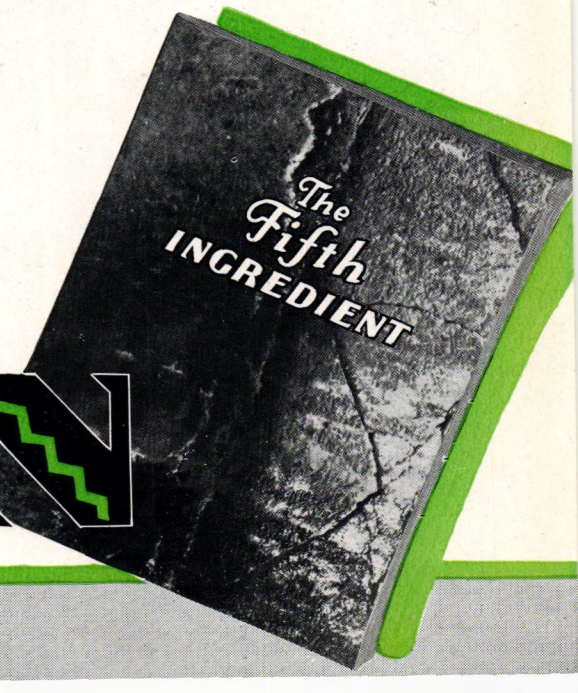
And in addition—Greater Strength

Combining the proved capacity of Master Builders Metallic Hardner to resist abrasive wear, with the proved capacity of Omicron to check corrosive disintegration, Metalicron also greatly increases the tensile and compressive strength of the concrete.

Exhaustive tests of compressive strength of Metalicron concrete compared with ordinary concrete show an increase of over 31%. Tensile tests indicate an increase of over 42%. Metalicron concrete, after 21 days in a mild sulphuric acid solution, showed a tensile strength of 780 pounds per square inch, ordinary concrete but 400 pounds. After 21 days in sulphate solutions, the tensile strength of Metalicron concrete tested 990 pounds, ordinary concrete 350 pounds. These are the facts — indisputable evidence of new high levels in concrete floor construction, far-reaching in importance to architects, engineers and building owners.

Thus Omicron has, practically overnight, antiquated all outstanding specifications for hardened concrete. It has brought new high standards of serviceability and permanence to industrial floors.

The whole story of protection from abrasive wear and from the disintegration to which all concrete is subjected, is told in a 28 page book: "The Fifth Ingredient." Send for a copy.



C R O N

Masterbuilt Floors

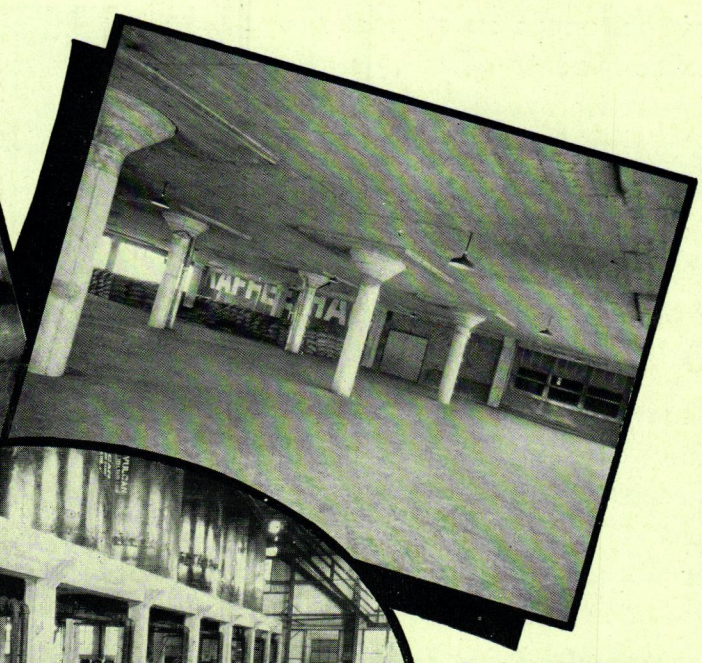
HARDENED DUST-PROOF CONCRETE

Installations of Metalicron Concrete Floors

With Omicron as the fifth ingredient in the concrete, these floors are protected from corrosive as well as abrasive wear



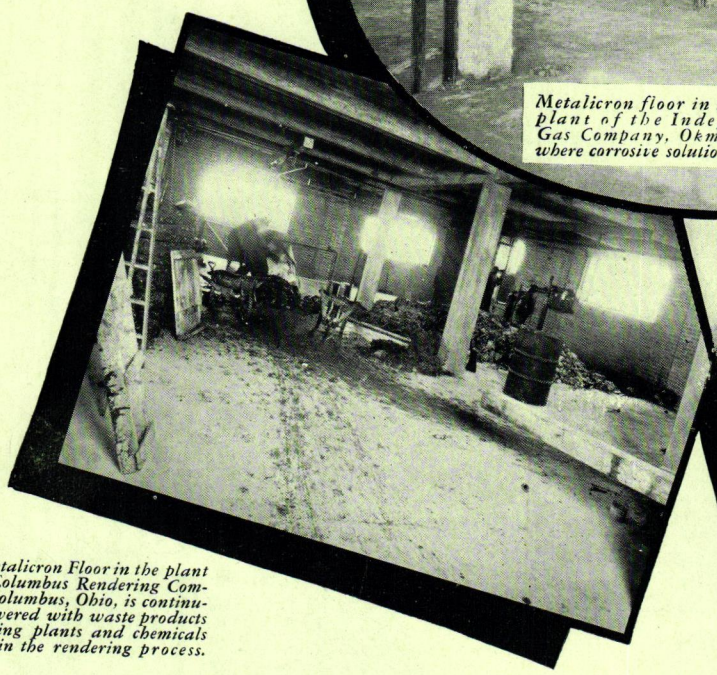
Kay Steel Wheel Company's Alhambra, California Foundry operates on a Masterbuilt Metalicron Floor.



In the Kaffee Hag Company's Cleveland Plant, Masterbuilt Metalicron Floors carry coffee storage and manufacturing processes.



Metalicron floor in the compounding plant of the Independent Oil and Gas Company, Okmulgee, Oklahoma, where corrosive solutions are ever present.



This Metalicron Floor in the plant of the Columbus Rendering Company, Columbus, Ohio, is continuously covered with waste products of packing plants and chemicals present in the rendering process.



Masterbuilt Metalicron Floors under construction in the factory of the American Lace Paper Co., Milwaukee, Wis.

MASTERBUILT FLOORS

TRADE MARK

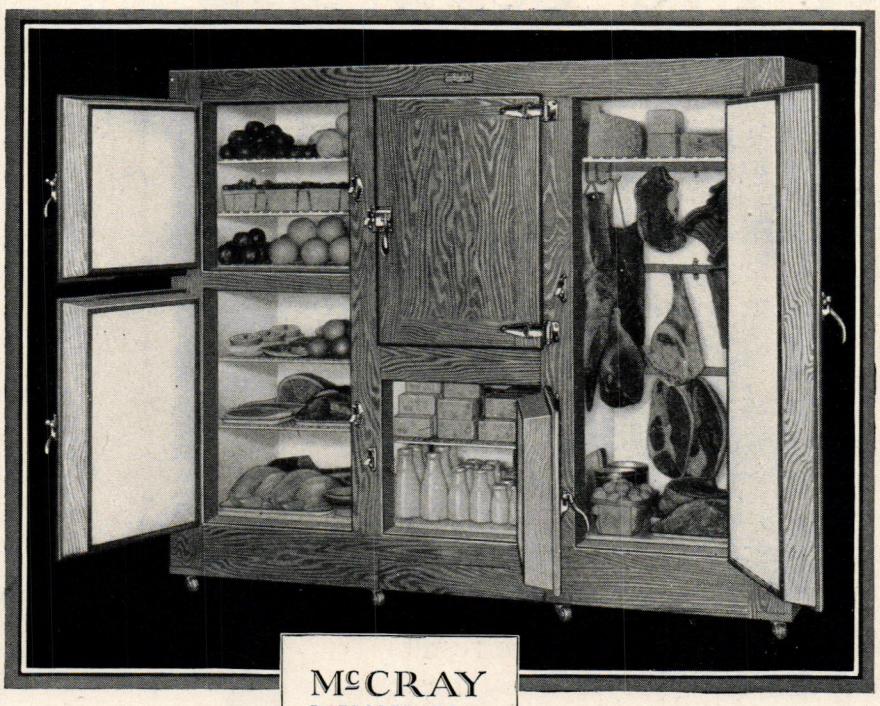
THE MASTER BUILDERS COMPANY

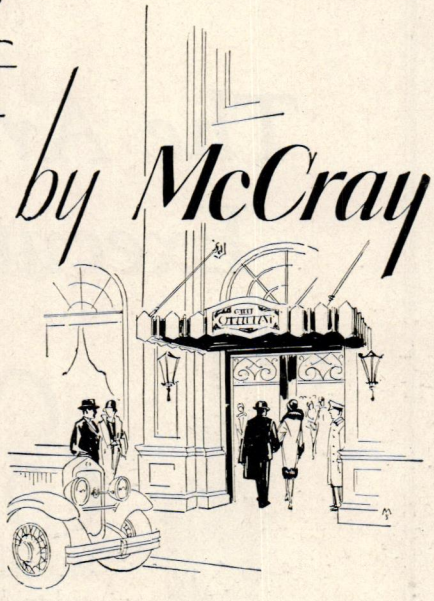
Cleveland, Ohio

Manufacturers of Metalicron, Colormix, Mastermix, Dycrome, Stainproof, Saniseal

for
Hotels - Restaurants - Institutions

a New Standard of Refrigerator Service *by McCray*





McCRAY
REFRIGERATORS
FOR ALL PURPOSES
For
Grocery Stores · Meat Markets · Hotels · Restaurants · Hospitals · Institutions · · Florist Shops · Homes . . . .

NEWEST and finest achievement in McCray history, the No. 332, shown above, is typical of the latest models built especially for hotels, restaurants, cafeterias, clubs and institutions.

Gleaming white porcelain fused on steel provides an interior easy to keep spotless and sanitary. Four-inch walls are insulated with pure corkboard, sealed with hydrolene.

Five-ply laminated oak with flush panels make a handsome as well as staunch and durable exterior. Hardware of the latest self-closing type, is bronze, heavily nickelled Piano. casters enable easy moving.

Like all McCray models the 332 may be used with *machine refrigeration of any type,* or ice. Other styles and sizes, with the same details of quality construction, available for every refrigerator need.

In hotels — in restaurants, tea rooms, cafeterias and soda luncheonettes — in city and country clubs — McCray equipment is chosen for *efficiency* in service and *economy* in operation.

Architects should have the latest McCray catalogs and literature. Our portfolio on refrigeration, especially prepared for architects, is yours for the asking. Write today.

McCRAY REFRIGERATOR SALES CORPORATION
960 Lake St., Kendallville, Ind.
Salesrooms in All Principal Cities *{See Telephone Directory}*

FORTY years of close association have given McCray an intimate knowledge of the exacting needs of hotels, restaurants and institutions.

In these latest models, built upon the staunch foundation of quality which has always characterized McCray, are embodied refinements and improvements which provide a new standard of refrigerator service. Wherever perishable foods must be kept in large quantities, these new models are hailed as the finest achievement in modern sanitary refrigeration!

Significant of this high regard, is the selection of McCray equipment by so many of America's largest and finest establishments. McCray quality has *been proved in service for more than a third of a century.*

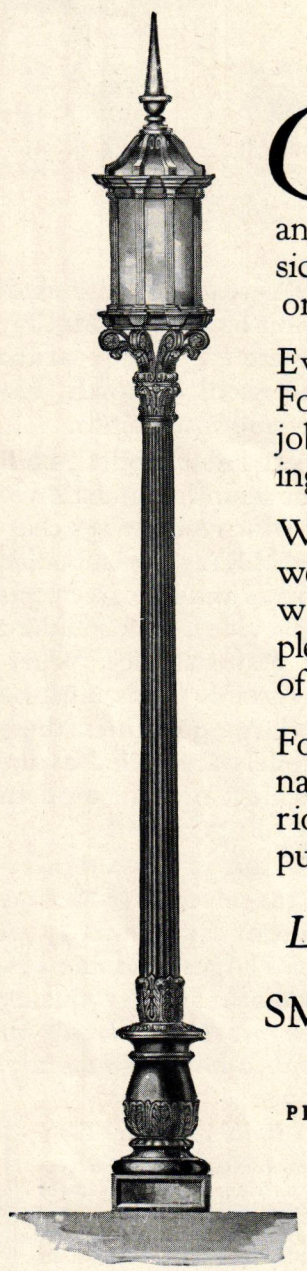
We Build to Order, Too

McCray builds to order to meet every refrigerator requirement in institutions, stores and homes. Our engineers will gladly submit blue prints, specifications and quotations without obligation. Just send us a rough sketch, indicating refrigerator needs.

WORLD'S LARGEST MANUFACTURER OF REFRIGERATORS FOR ALL PURPOSES

McCRAY REFRIGERATORS

The Architect is Executive Pro Tem.



No. 399
Scale, ½" = 1'0"
12'6" high over all
Base, 12" square

EVERYONE knows, what a person wants well done he must do himself. When the architect gives us an original design to interpret, we consider him the executive, pro tem., of our organization.

Every instruction is followed in detail. For we feel the fundamental part of our job is first to acquire a perfect understanding of the architect's point of view.

With the architect's conception as ours we can proceed, confident that the results will please the designer as they have pleased so many of the leading architects of the country.

For architects who do not desire an original design, our catalogue "J" displays exterior lamps, lights, and fixtures for every purpose and period.

Lamp Posts · Lanterns · Brackets

SMYSER-ROYER COMPANY

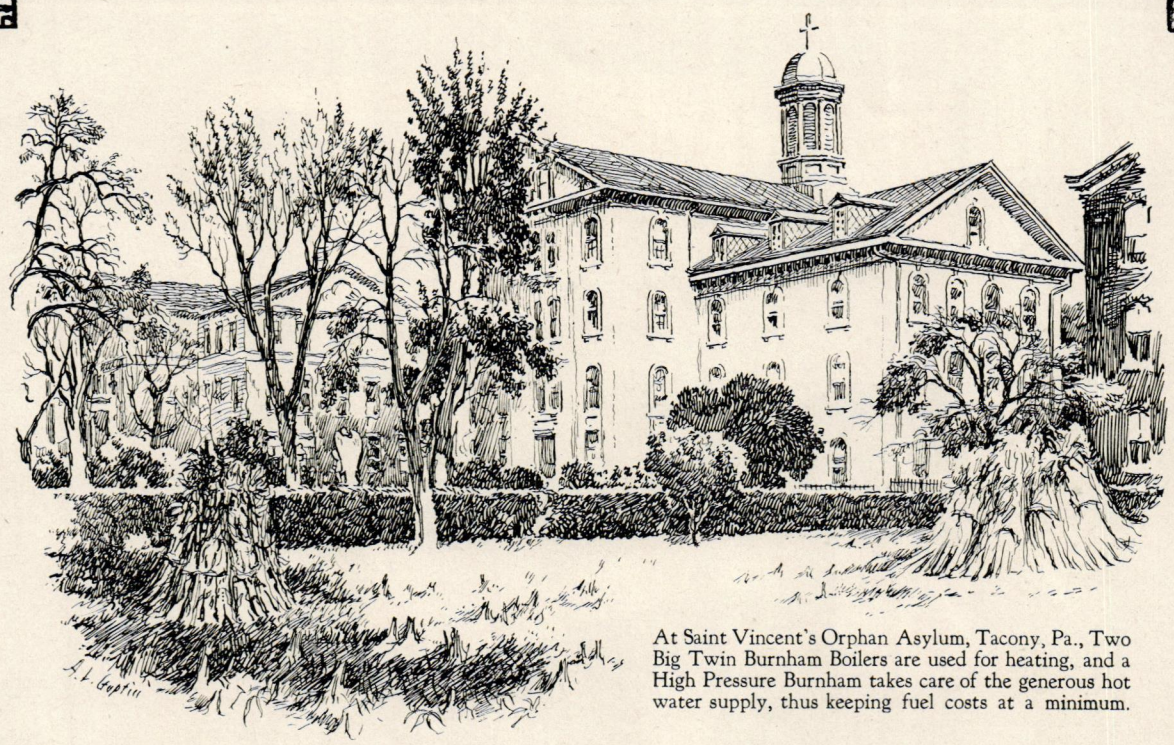
Main Office and Works: YORK, PA.

PHILADELPHIA OFFICE: 1700 WALNUT ST.



No. 435
Scale, ¾" = 1'0"
9'8½" high over all
Base octagonal—1'6½"
across corners

A·L·E·A



At Saint Vincent's Orphan Asylum, Tacony, Pa., Two Big Twin Burnham Boilers are used for heating, and a High Pressure Burnham takes care of the generous hot water supply, thus keeping fuel costs at a minimum.

They Bought Them Because Fuel Costs Are An Important Item

EQUIPMENT for Catholic Institutions is as you know, bought with due regard to the worth of each dollar invested.

That three Burnham Boilers are used at St. Vincent's, means something definite as regards their fuel thriftiness.

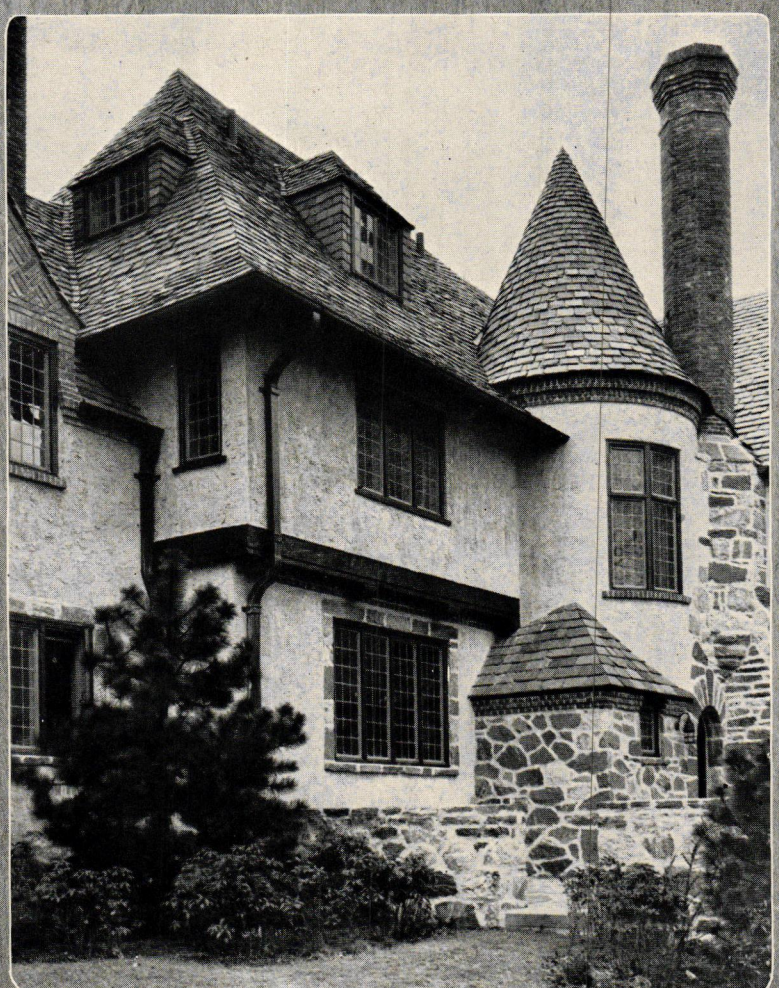
Special Architect's Catalogue mailed on request, offers a Burnham Boiler for every heating purpose.

Burnham Boiler Corporation

IRVINGTON, NEW YORK

New York Office: Graybar Building, 420 Lexington Avenue

Representatives in many principal cities of the United States and Canada



Julius Gregory
Architect

The interesting lines of this house have been subtly emphasized by the harmonious blending of colors, sizes and shapes of the Tudor Stone in a roof especially designed for the building.

Rising and Nelson Slate Company

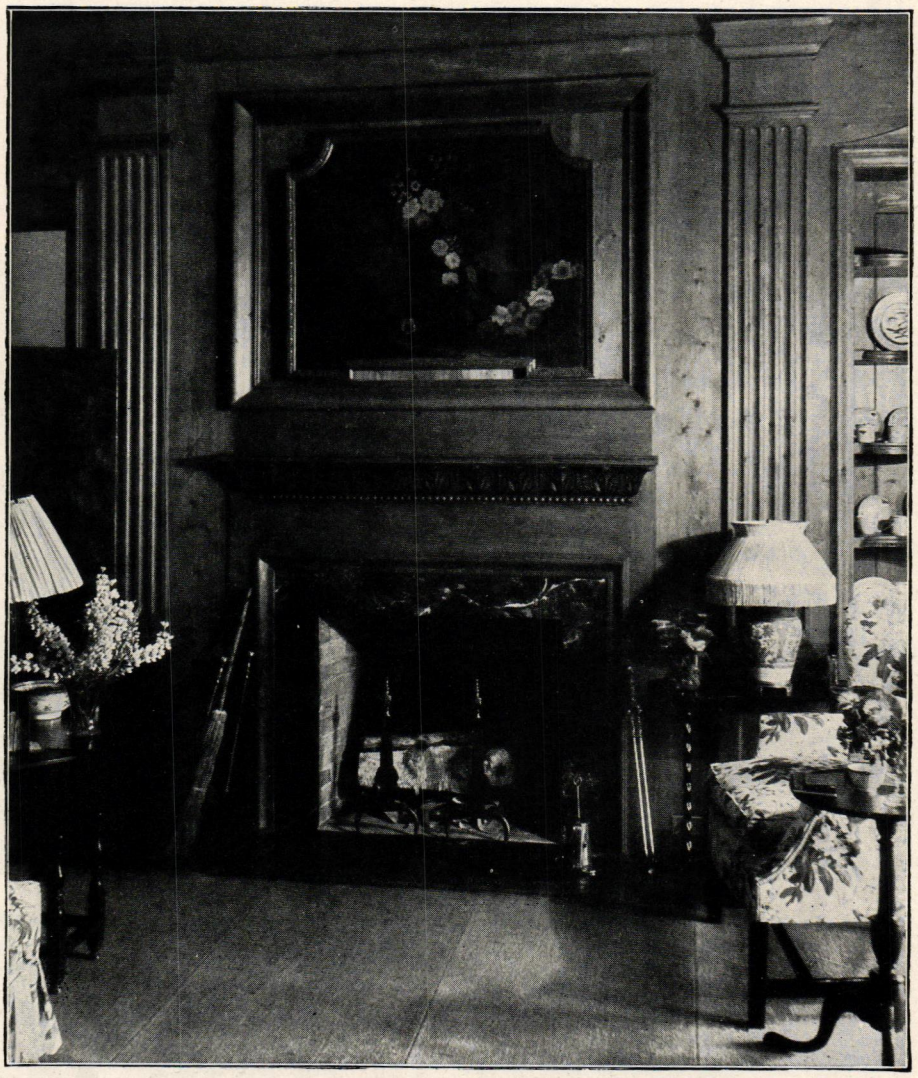
WEST PAWLET, VERMONT

Architects Service Department: 101 Park Avenue, New York City

CHICAGO DETROIT PHILADELPHIA BOSTON

COVERT

Fireplace Construction



COVERT
FIREPLACE DAMPERS

Write for booklet written for the Architect, giving complete data on Covert System of Fireplace Construction.

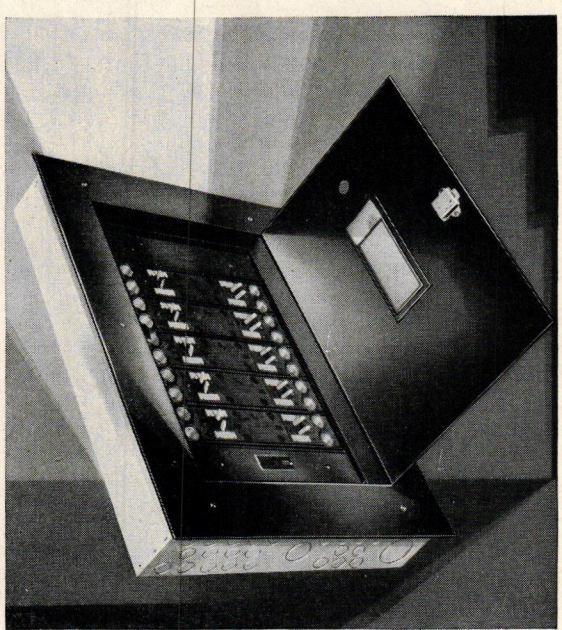
THERE are established practices regarding fireplace dimensions. The *important* details, however, are the construction of the throat, smoke chamber, and size of flue lining. If these things are not properly designed and built the fireplace will have poor draft, causing smoke to be forced out into the room. Poor results may be eliminated by adopting the *Covert System of Fireplace Construction.*

The H. W. COVERT COMPANY, 229 E. 37th St., N.Y.

Don't Compare Price until you fix the standard of Quality . . . . . *Then buy the Panelboard that gives your money's worth in value . . . . . .*

Panelboards differ in value as do all other products made by different manufacturers. The natural reason for Ⓕⓐ Leadership is just that Ⓕⓐ Panelboards are better and can be used without adding to your costs.

Ⓕⓐ Panelboards are standardized in design and construction. Sectionally constructed safety types that are so built that they last, without maintenance, as long as the building, where they are installed, stands.



A new Ⓕⓐ catalog just printed will interest you. There is an Ⓕⓐ man to help you with estimates and co-operation without cost.

Frank Adam
ELECTRIC COMPANY
ST. LOUIS

FA TRADE MARK

DISTRICT OFFICES

Atlanta, Ga.
Baltimore, Md.
Boston, Mass.
Buffalo, N. Y.
Chicago, Ill.
Cincinnati, Ohio
Dallas, Texas
Denver, Colo.
Detroit, Mich.
Jacksonville, Fla.
Kansas City, Mo.
Los Angeles, Calif.
Memphis, Tenn.
Minneapolis, Minn.
New Orleans, La.
New York City
Omaha, Neb.
Philadelphia, Pa.
Pittsburgh, Pa.
San Francisco, Calif.
Seattle, Wash.
Tampa, Fla.
Tulsa, Okla.
Montreal, Que.
Toronto, Ont.
Vancouver, B. C.
Walkerville, Ont.
Winnipeg, Man.



Quiet... please...

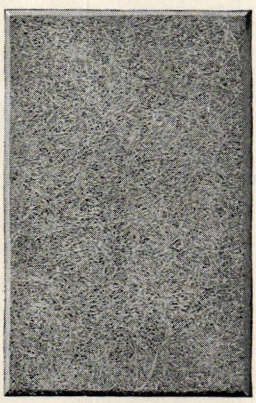
THE newest auditoriums, churches, and other large interiors accurately reflect the trend of acoustical design.

Quieted with Acoustex, the *decorative* sound-absorbent, they prove . . . eloquently . . . that appearance no longer need be sacrificed to utility.

With a ceiling finish beautiful in itself . . . with a delightful textured surface that rests the eye as well as the ear, Acoustex has definitely put the whole question of acoustical correction into the field of decorative design.

BOSTON ACOUSTICAL ENGINEERING DIVISION
of HOUSING COMPANY
40 CENTRAL STREET, BOSTON, MASS.

Acoustex erectors are located in principal cities. Should one not be available in your vicinity, write direct.



ACOUSTEX
offers you . . .

The most beautiful acoustic material on the market . . . Tiles from 6″ x 12″ to 12″ x 24″ and large sheets 2 feet wide and up to 10 feet in length . . . all one inch thick . . . Tinted to your specifications . . . Unusually high coefficient of sound absorption . . . Fire-resisting . . . Moisture-proof . . . Easily vacuum cleaned and redecorated . . . Tested through years of successful installations.

Ask Your Secretary to Clip and Mail



Boston Acoustical Engineering Division
of Housing Company, 40 Central Street
Boston, Mass. P

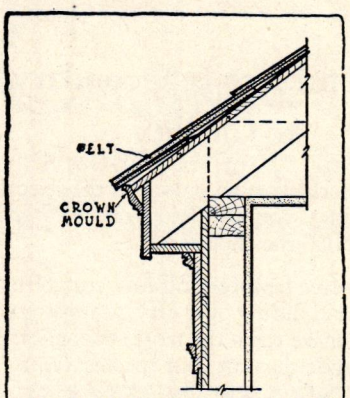
Send Specifications and Details on the Use and Application of Acoustex for our acoustic file.

Name_____

Address_____

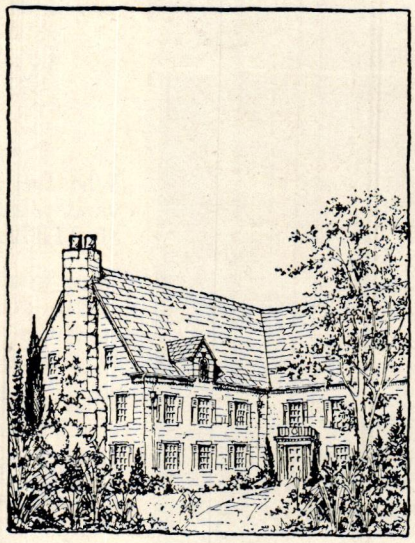
ACOUSTEX

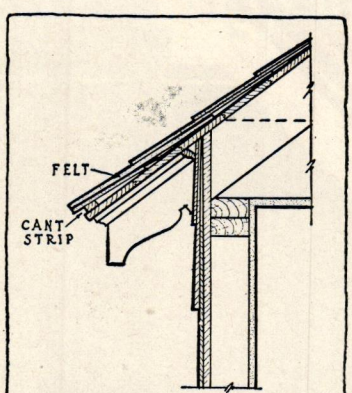
The *Decorative* Sound Absorbent



SHOWING CROWN MOULD SET TO PROVIDE CANT

‹CORNICE SECTION›





SHOWING USE OF CANT STRIP

‹CORNICE SECTION›

‹RIGID ASBESTOS SHINGLES›

‹AMERICAN METHOD›

‹APPLIED WITH BUTTS ALIGNED›



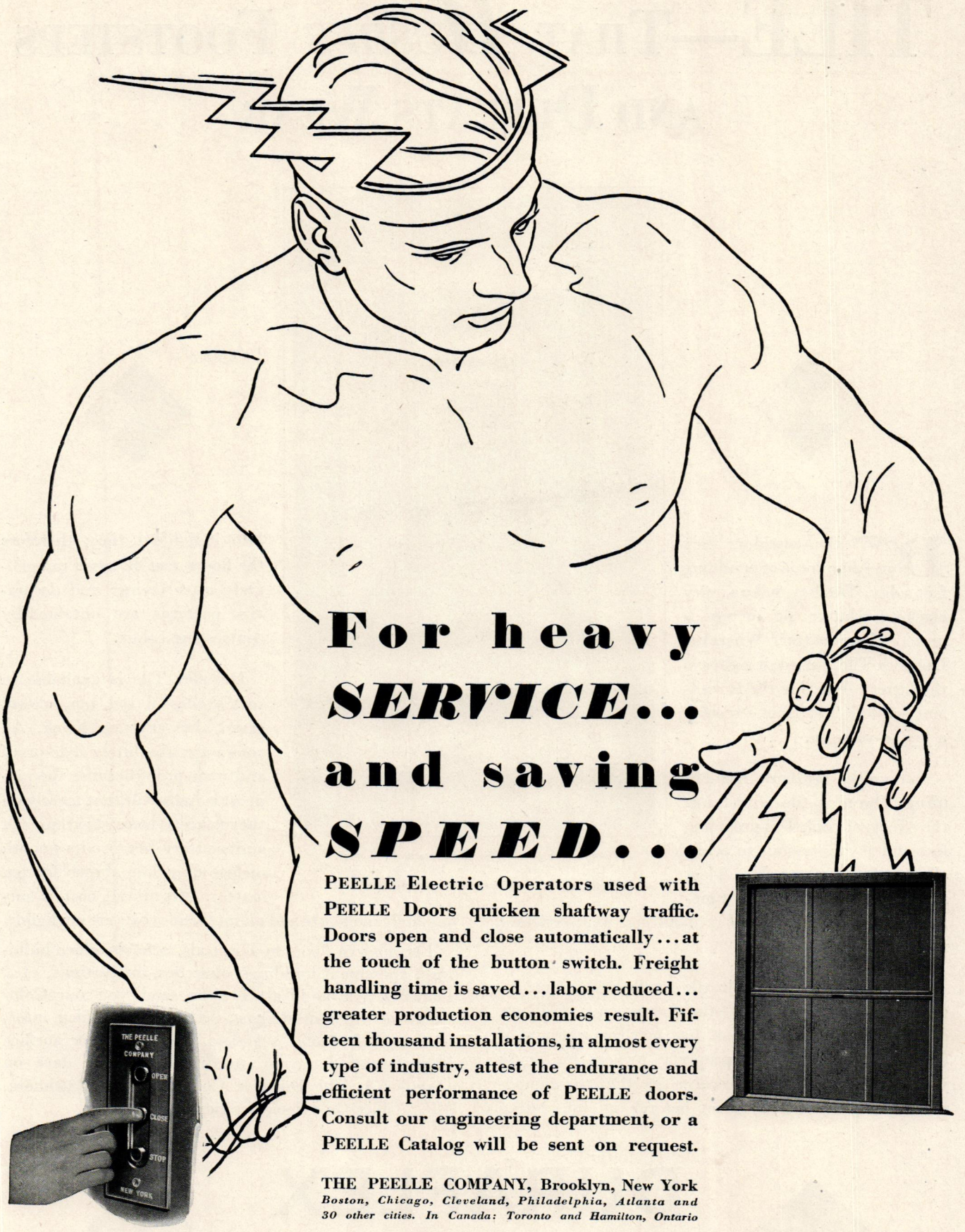
ACOUSTICAL TREATMENT
RIGID ASBESTOS SHINGLES
ASPHALT SHINGLES
BUILT-UP & READY-TO-LAY ROOFING

Johns-Manville
CORPORATION
NEW YORK · CLEVELAND · CHICAGO · SAN FRANCISCO · TORONTO

TRANSITE · FLAT & CORRUGATED
INSULATIONS AGAINST HEAT & COLD
COMPOSITION FLOORING
WATERPROOFING & DAMPPROOFING

‹ARCHITECTURAL SERIES PLATE N° 1›

‹ENTIRE SERIES SENT ON REQUEST›



For heavy *SERVICE*... and saving *SPEED*...

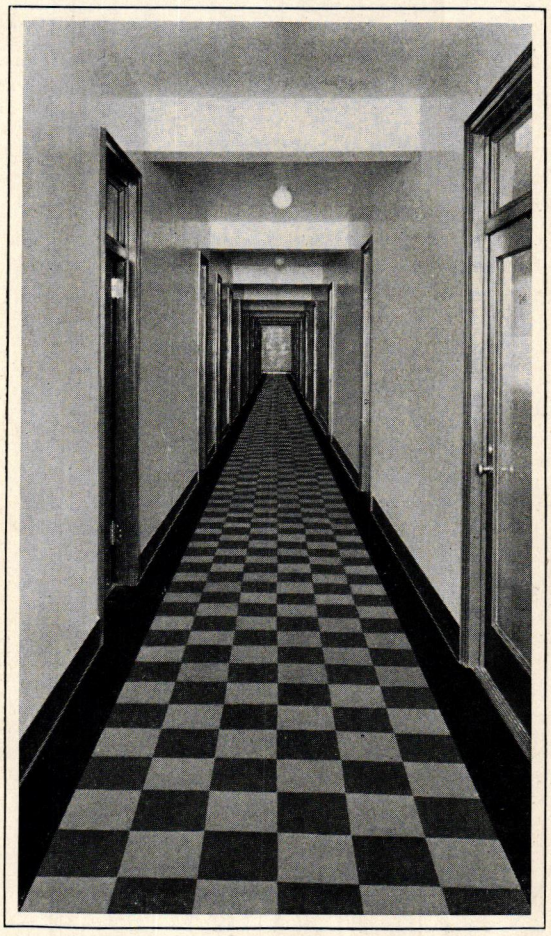
PEELLE Electric Operators used with PEELLE Doors quicken shaftway traffic. Doors open and close automatically... at the touch of the button switch. Freight handling time is saved... labor reduced... greater production economies result. Fifteen thousand installations, in almost every type of industry, attest the endurance and efficient performance of PEELLE doors. Consult our engineering department, or a PEELLE Catalog will be sent on request.

THE PEELLE COMPANY, Brooklyn, New York
Boston, Chicago, Cleveland, Philadelphia, Atlanta and 30 other cities. In Canada: Toronto and Hamilton, Ontario

PEELLE Freight Elevator DOORS

"The doorway of America's freight elevator traffic"

TILE—THAT *HUSHES* FOOTSTEPS AND DEFEATS WEAR



A *Duraflex Tile Installation in the International Magazine Building, 959 Eighth Ave., New York City. Huberth & Huberth, Agents, 2 Columbus Circle, New York City.*

DOWN the corridors they go—hundreds of pounding feet a day. Do they make a noisy clackety clatter or merely a muted pitter patter? Wherever Duraflex Tile is used, it's always the latter. For this tile is resilient—quiet underfoot—restful, a joy to walk on.

Yet unlike ordinary resilient *tiling*, Duraflex tile withstands the effects of countless pounding feet and is impervious to acids, alkalies, fire or water. It will last for years because of the time-tested Duraflex formula of resilient and wear-resistant materials.

Duraflex Tile is a mastic tile made of the same ingredients as Duraflex-A—the permanent, resilient, ductile flooring material that has met the approval of architects, builders and property owners for many years. The principal differences are that the composition has been allowed to set beforehand for cutting into individual tiles; therefore the floors can be used immediately after laying; and decorative patterns are obtained by contrasting colors.

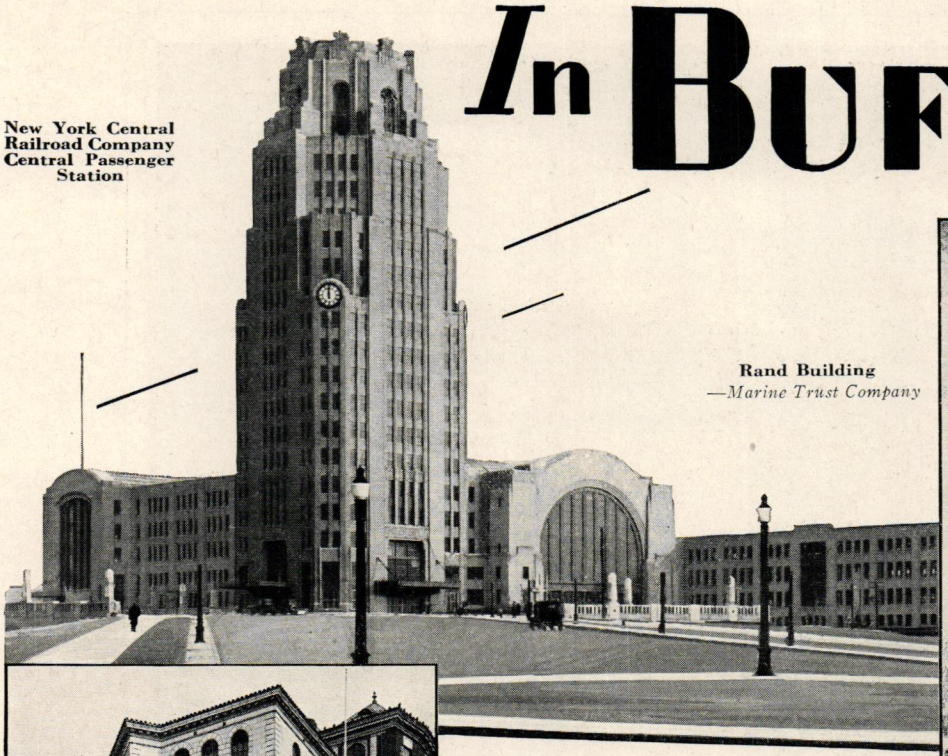
Duraflex Tile is available in soft shades of red, tan, brown, green, blue, gray and black. All colors are absolutely fade-proof and wear-proof because the pigment is in the tile, not merely on the surface. It is easy to keep clean and sanitary because its smooth surface does not absorb foreign matter. Its initial cost is surprisingly moderate and maintenance costs are negligible.

For modern floors in hospitals, schools, office buildings, apartment buildings, churches, institutions, etc., Duraflex Tile is ideal. Let us send you our Color Chart of different designs, with other detailed information. If a solid, seamless, one-piece floor surface is preferable for your need, ask also for data on Duraflex-A. The Duraflex Company, Inc., Baltimore, Md. Offices in principal cities.

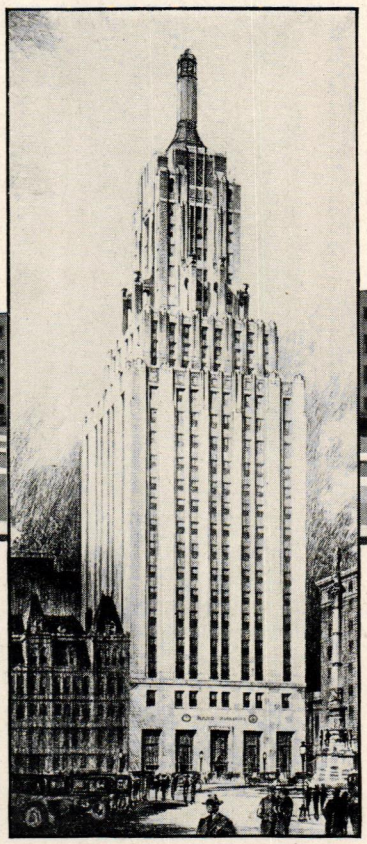
DURAFLEX
MASTIC TILE
and
DURAFLEX-A FLOORING

In BUFFALO

New York Central Railroad Company Central Passenger Station



Rand Building
—*Marine Trust Company*





These four structures, like many other Buffalo buildings, have Bethlehem Wide-Flange Structural Shapes—generally known as Bethlehem Sections — in their steel framework.

The light weight of Bethlehem Sections and their economy in cost of fabrication and erection have led to their extensive adoption by architects, engineers and contractors.

Thousands of structures, the world over, have Bethlehem Sections in their steel framework.

BETHLEHEM STEEL COMPANY

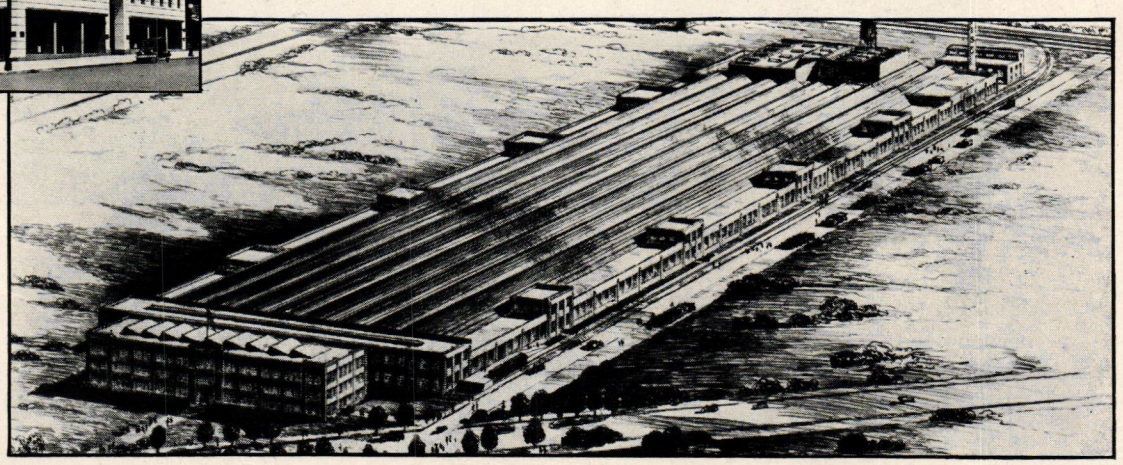
General Offices: Bethlehem, Pa.

District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Detroit, Cincinnati, Chicago, St. Louis, Seattle, San Francisco, Los Angeles, Portland, Honolulu.

Bethlehem Steel Export Corporation, New York
Sole Exporter of our Commercial Products

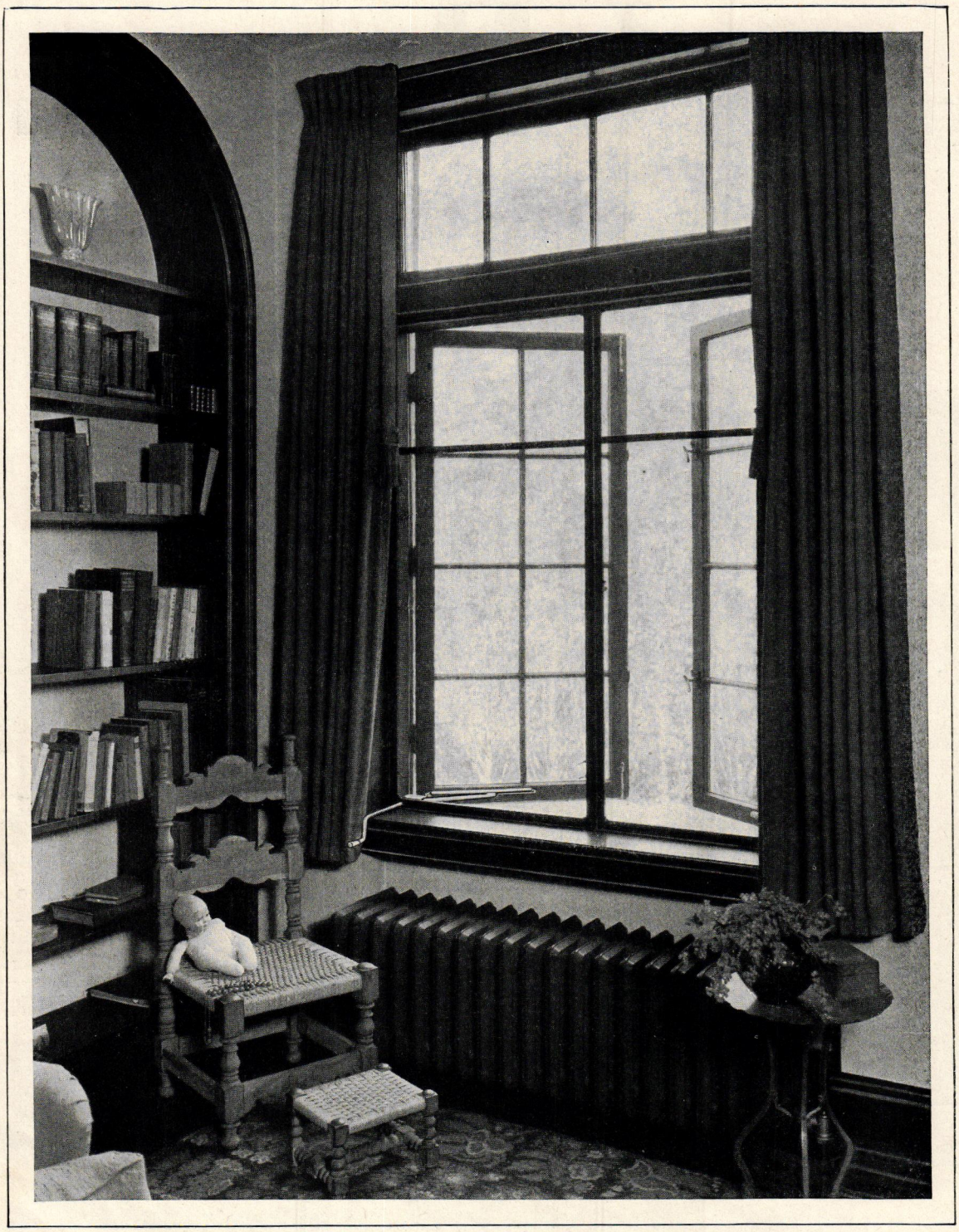
Above:
Victor and Company Building

Right:
Curtiss Aeroplane and Motor Company Plant

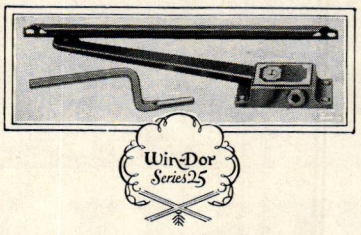


BETHLEHEM

Wide-flange STRUCTURAL SHAPES



Casements controlled *through* the screens . . . easily, quickly, at a touch . . . are inevitably appreciated. Your clients will welcome the convenience of Win-Dor casement operators and gratefully avail themselves of the automatic and positive locking action. Screens stay shut, curtains stay clean! Rattle-proof, slam-proof. Make all casements, wood or steel, as convenient as they are beautiful. See Sweet's for complete catalog information, or write us on special problems.



THE CASEMENT HARDWARE CO.
Casement Hardware Headquarters

Win-Dor
CASEMENT HARDWARE

402-K NORTH WOOD STREET
Chicago · · · · Illinois

ZENITHERM

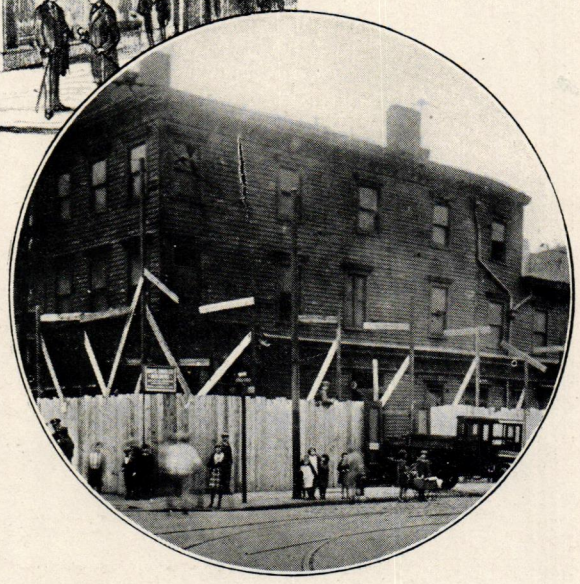
Stating

PROBLEM No. XVII

Required: A material, weather-proof and fire resistant, which can be used, economically, to veneer a dilapidated clapboard building. The object being to modernize it, and, through rentals, make it an asset to the owner. This veneer must be economical in first cost and installation cost.



How Zenitherm improved the Wallenstein Building, Jersey City, N. J.



Wallenstein Building as it looked before it was covered with Zenitherm.

The PROBLEM *Solved*

THE most satisfactory material available to meet these requirements was Zenitherm. Its use changed this corner building in Jersey City, N. J., from an abandoned ruin, condemned by the Building Department, and unfit for occupancy, into a modern, profitable property. Stores and offices rented readily.

The Zenitherm was cut to fit at the factory and nailed over furring on its facade. The colors used were gold with green keystones over the windows. As Zenitherm is unaffected by rain or weather there are, of course, no maintenance costs.

Zenitherm can be used in exteriors or interiors for walls, floors or terraces. It can be obtained, cut at the factory to fit the desired pattern. Or if preferred, it can be cut on the job. Zenitherm is always available in fourteen standard colors. Other colors can be made up for architects on special order.

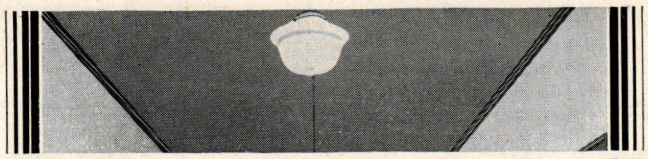
Information for specifying can be had from our offices or on page A-337, Sweet's Catalogue.

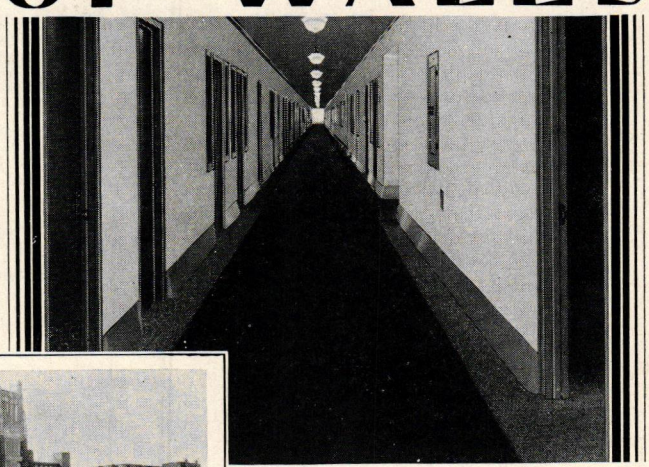
A. P. H. Ruinder, President

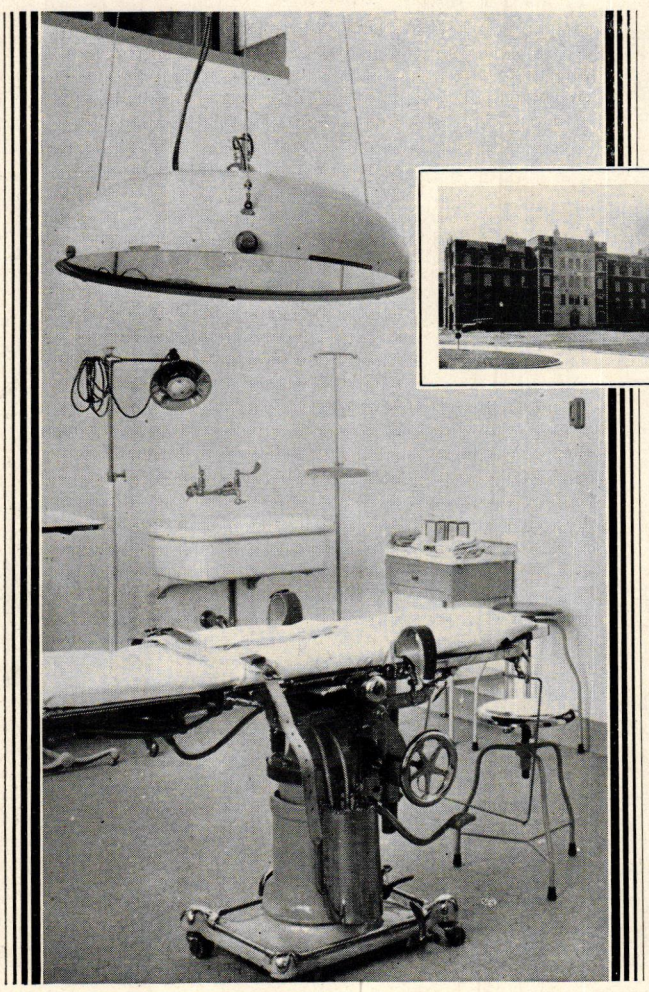
ZENITHERM COMPANY, INC. — KEARNY, N. J.

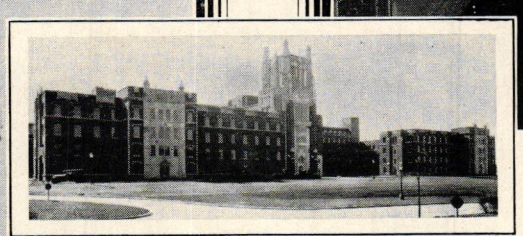
110 East 42nd St., New York City — Otis Building, Philadelphia — 612 North Michigan Ave., Chicago, Ill.
11 Beacon St., Boston, Mass. 55 New Montgomery St., San Francisco

In Hospitals, SOUND-PROOF WALLS *are a Necessity*









Architects: Proudfoot, Rawson and Souers, Des Moines, Iowa
General Contractor: J. and W. A. Elliott Co., Minneapolis, Minn.
Plastering Contractor: Comer Metal Lath Construction Co., Kansas City, Mo.

GENERAL HOSPITAL
UNIVERSITY OF IOWA
Plastered Throughout with
BEST BROS. KEENE'S CEMENT

THE problem of making hospital walls sound-proof, and at the same time attractive and durable, is solved at moderate cost by the use of BEST BROS. Keene's Cement.

This pure gypsum plaster cement again proved its superior qualities in the General Hospital, University of Iowa, at Iowa City. There the walls are tough, durable, good looking . . . and they absorb the sound waves. The result is a quietness so necessary in such an institution.

BEST BROS. Keene's Cement works easily and smoothly. It will not check or crack. And it lends itself to all types of interior finishes.

These superior qualities make BEST BROS. Keene's Cement especially desirable for use in auditoriums, halls, hotels, hospitals and in public and private buildings of all kinds.

Write for full particulars.

BEST BROS. KEENE'S CEMENT COMPANY
1040 W. Second Ave. MEDICINE LODGE, KANS.
Sales Offices in: New York, Chicago, Detroit, St. Louis, San Francisco, Atlanta (26)

An Architect is an Investment — Not an Expense



BEST BROS.
KEENE'S
CEMENT
Always "BEST" for Plastering





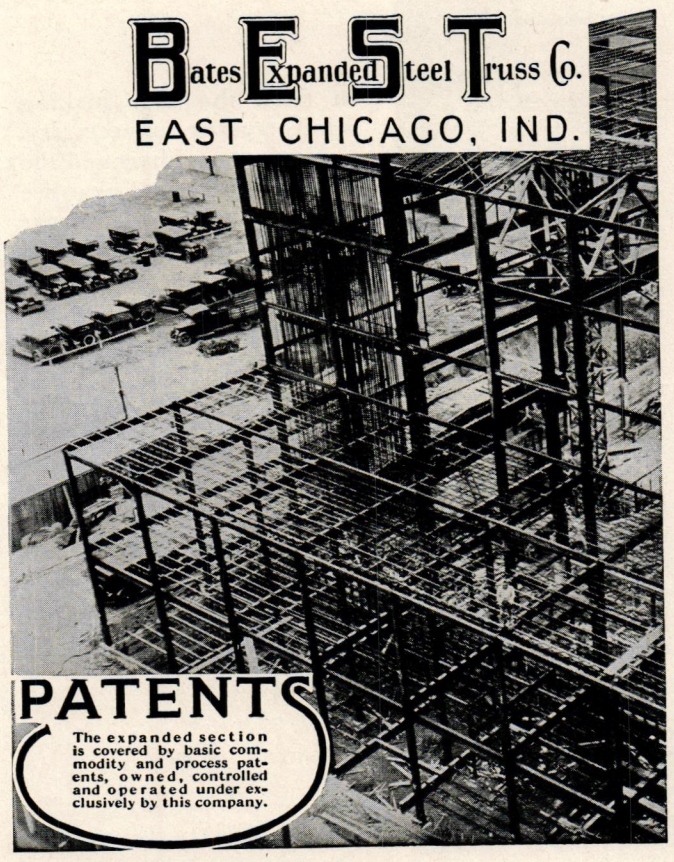
One-piece Gives Dependability

NO WELDS IN STRESS—one piece of steel—expanded—without rivets, bolts or welds in shear or tension—these are the features responsible for the rapid gain in Bates-Truss Joist popularity.

A simple I-beam section is expanded into a lattice truss web. The expansion increases the depth of the beam—the truss materially increases its strength. The points of contact of the lacing and flange members are simply unsheared portions of the original plain web.

Write for catalog, loading tables and complete information on this modern truss joist.

BEST Bates Expanded Steel Truss Co.
EAST CHICAGO, IND.



PATENTS
The expanded section is covered by basic commodity and process patents, owned, controlled and operated under exclusively by this company.

Six Reasons Why Architects are specifying HARDINGE



1. Because it is quiet—automatic—durable—easily understood—economical, completely burning cheaper grades of oil efficiently.
2. Because there are 7 different sizes and combinations—all parts standard and interchangeable—providing individual treatment to fit the heating requirements of any building from bungalow to skyscraper.
3. Because it is not built to meet a price, but to give economical dependable service and actually return dividends in the form of fuel savings and unmatched automatic heat satisfaction.
4. Because scientific distribution of flame over grate area of boiler and numerous exclusive, patented features assure economy and dependability unobtainable elsewhere.
5. Because it is listed as standard by Underwriters Laboratories and Approved Board of Standards and Appeals of New York.
6. Because it is the only oil burner giving a 10-year factory guarantee—a real bond of confidence.

HARDINGE FUEL OIL HEAT

Hardinge Brothers, Inc.
Factory and General Offices:
4149 Ravenswood Ave., Chicago, Ill.
Factory Branches—Chicago, Michigan Ave. at Ohio
Boston, 843 Beacon Street



Board of Water Commissioners Building, Detroit, Michigan
Architect: Louis Kamper, Inc. *Contractor:* A. W. Kutsche Co.

IN the center of Detroit's business district, the Detroit Water Board Building rises 22 stories high, daylighted throughout with the new Fenestra Office Windows.

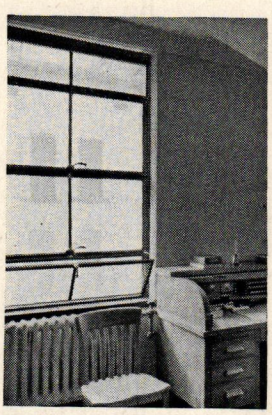
These modern office windows are built of casement window sections. They are designed to reflect simplicity, continuity, restraint—to conform to the architectural design of the entire structure. And they are practical. Upper sash, supported by rolled steel side arms, slides down from the top while swinging out from the bottom, thus aiding in the control of ventilation and making every inch of outside glass easily accessible for washing from within. The sill sash opens in from the top, making wind guards unnecessary.

Narrow steel bars and the absence of cumbersome weight boxes permit a larger area of glass. Fireproof steel members obviate all sticking, swelling, warping or shrinking—insure ever easy operation. Labeled by the underwriters if desired. Every sash meets the frame with a wide, flat, double overlap and is designed with internal baffles to insure weather protection.

Without obligation, the Fenestra Architectural Service Department will gladly prepare details and elevations. Phone Fenestra for a demonstration. Complete details in Sweet's Architectural Catalog.

DETROIT STEEL PRODUCTS COMPANY
2293 East Grand Boulevard, Detroit, Mich.
Factories: Detroit, Mich., and Oakland, Calif. Convenient Warehouse Stocks

Through the office of Louis Kamper, Fenestra Steel Windows have been used in the Board of Water Commissioners Building, Detroit



An office in the Board of Water Commissioners Building. The two upper sash are closed but the lower sash is opened in to act as a wind guard.

Fenestra
office windows



HOTEL NEW YORKER
New York City

Architects: Sugerman and Berger, New York City. *Consulting Sanitary Engineer:* A. E. Hansen, New York City. *Plumbing Contractors:* W. G. Cornell Company, New York City

THE NEW YORKER—NEW YORK CITY

Another triumph in building wonders . . . New York's tallest and largest hotel . . . joins America's long list of imposing hostelries. The New Yorker's towering lines of beauty, its luxury and comforts are backed by quality material, particularly in the mechanical part of the structure . . . its major pipe tonnage bears the name "NATIONAL" Copper-Steel Pipe . . . especially resistant to atmospheric corrosion in soil, waste, vent lines and rain leaders.

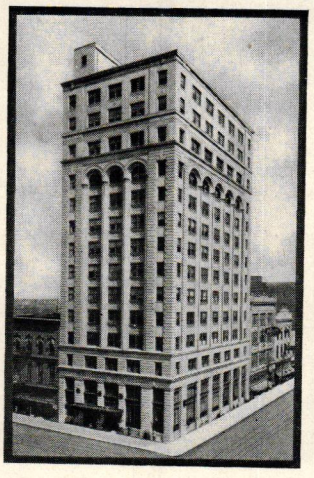
NATIONAL TUBE COMPANY, PITTSBURGH, PA.
Subsidiary of United States Steel Corporation

NATIONAL PIPE

DAHLSTROM IS THE OUTSTANDING NAME IN HOLLOW METAL CONSTRUCTION . . . . .

No finer tribute can be paid any product than the continual increase of its use . . . the widespread recognition of its superior qualities. This tribute is being paid by architects who specify "DAHLSTROM" whenever their plans call for Hollow Metal construction. For Dahlstrom . . . founder and leader of a quarter-century old industry . . . retains and ever strengthens its reputation for the finest in materials, the best in craftsmanship, and the latest in Hollow Metal designs . . . Its vast factory facilities are geared to modern production standards . . . assuring its users of a skill in conception and speed in production, unparalleled in the industry. A series of plates in color will be sent gladly to architects interested in the latest development of Elevator Entrances. . . . . .





In the Independence Trust Company Bldg., Charlotte, N. C., the Elevator Entrances are by Dahlstrom. Architect: W. L. Stoddart, New York City. — Contractor: James Baird Co., Washington, D. C.

"NO BUILDING IS MORE FIREPROOF THAN ITS DOORS AND TRIM" . . . DAHLSTROM

Dahlstrom Metallic Door Co.
403 Buffalo St. (Est. 1904) Jamestown, N.Y.
New York Chicago Los Angeles Detroit Dallas

Walls *and* Ceilings *are* 80% of an Interior

Build them of

ARCH LATH

made of

COP-R-LOY

Reg. U. S. Pat. Off.

THE COPPER ALLOYED SHEET STEEL



Apartments: Cabanne Avenue, St. Louis, Mo.
V. A. Chinberg, Owner, Architect and Contractor
ARCH LATH installation throughout

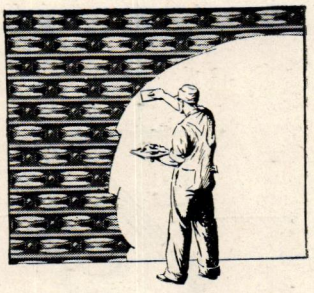
The use of COP-R-LOY in Arch Lath is an added factor for long life. This refined steel insures a permanence never before achieved in walls and ceilings. The rigidity of the Lath and the unique arch design enables the plasterer to secure the desired results with the least use of material and labor. Specification of Arch Lath permits firesafe plaster base without additional cost.

Considering the factor of fire-safety, alone—walls and ceilings reinforced with Arch Lath are armored for maximum protection which your clients cannot afford to miss.

WHEELING CORRUGATING COMPANY, Wheeling, West Virginia

Branches

New York Buffalo Philadelphia Chicago
Kansas City St. Louis Richmond Chattanooga
Minneapolis Des Moines Columbus, Ohio



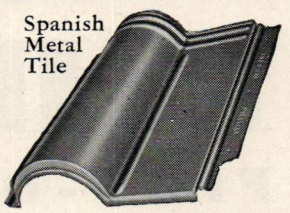
One sheet of Arch Lath [27x96] grips the plaster at 8,064 points, making the wall an integral unit of rigidity and strength, while minimizing possibility of cracking.

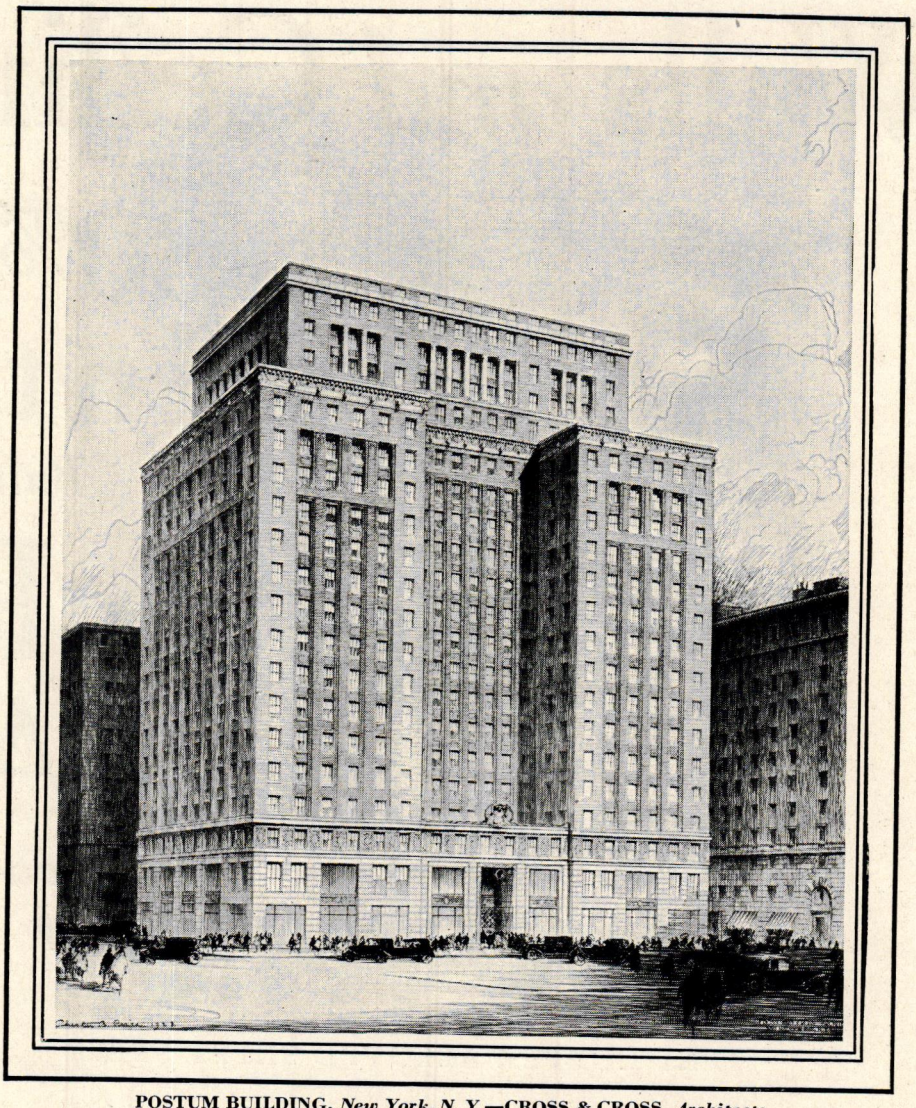
Wheeling
CORRUGATING COMPANY

Reg. U. S. Pat. Off.

Cop-R-Loy is also available in building materials such as Spanish Metal Tile, Roofing Ternes, Diamond Lath, Corner Bead, Picture Mold, Base Screed, Coal and Ash Pit Doors, etc., Spanish Metal Tile adds distinctive charm to any home besides giving protection against fire and lightning.

Spanish Metal Tile





POSTUM BUILDING, *New York, N. Y.*—CROSS & CROSS, *Architects*
Glazed With Libbey-Owens Glass

ARCHITECTS know that all window glass today is immeasurably better than it was twelve years ago. And it is better because Libbey-Owens glass has set a new and higher standard of quality—a standard which has inevitably meant better window glass and better windows everywhere. The enthusiasm with which the entire glass industry has accepted the new and higher standards set by Libbey-Owens glass is a striking tribute to the impressive contribution which Libbey-Owens has made toward the betterment of window glass quality.

The Libbey-Owens Sheet Glass Company, Toledo, Ohio

LIBBEY-OWENS

FLAT-DRAWN CLEAR SHEET GLASS

Distributed Through Representative Glass Jobbers and Used by Sash and Door Manufacturers Everywhere

WHEN YOU BUILD OR REMODEL INSULATE YOUR HOUSE WITH

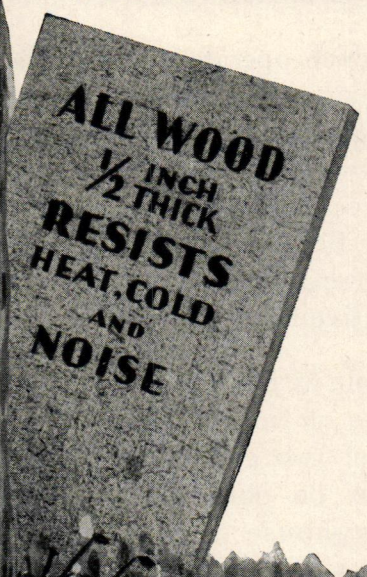
INSULITE

the Wood-Fiber Insulating Board

The Luxurious Comfort of an Insulated Home Is Within the Reach of the Most Modest Income

At very low cost your clients may have homes insulated with INSULITE. This cost is more than paid back in greater structural strength and reduced fuel bills, to say nothing of the all-year comfort that the occupants will enjoy.

INSULITE Building Board is ideal for use as sheathing and wall board. INSULITE Plaster Base enjoys a fine record of successful service. INSULITE in roof insulation—for lining attics and garages—for sound control and acoustical correction—and various other uses—has won the commendation of thousands of architects, builders and owners.



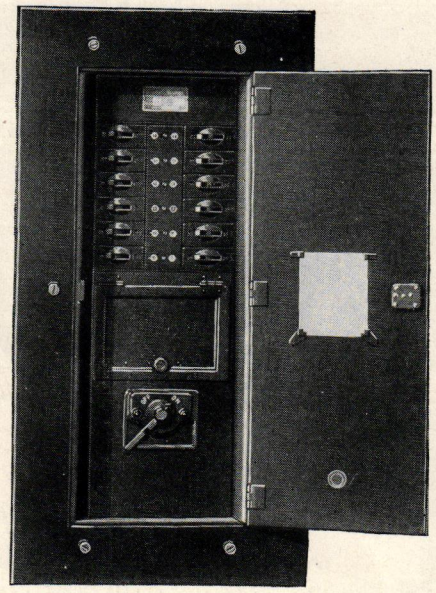
Please write for samples and as many copies of the INSULITE Specification Portfolio as you may require.

THE INSULITE COMPANY
(*A Backus-Brooks Industry*)
1212 Builders Exchange, Dept. 10
MINNEAPOLIS, MINN.

THE NATION'S PROTECTION AGAINST HEAT AND COLD

NO FUSES

NO SWITCHES



In the branch circuits

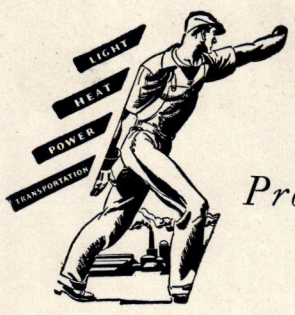
THE Westinghouse type NAB Nofuz panelboards are a radical departure from previous types of lighting control panels. Instead of the conventional toggle switch and fuse, the branch circuits are protected and controlled by automatic circuit-breakers.

These circuit-breakers, which operate on the Deion principle, have many characteristics which make them ideal for general lighting control. There are no fuses to replace when overloads occur. Unnecessary tripping is avoided because of the inverse-time-limit characteristics of the breaker. The calibration of the breaker can not be altered nor its action blocked so as to remove its protective features.

Nofuz panelboards are built with a solid neutral and are available in capacities of from 2 to 64 circuits in multiples of two circuits. Further information can be obtained from the nearest Westinghouse office.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
BROOKLYN WORKS BROOKLYN, NEW YORK
SALES OFFICES IN ALL PRINCIPAL CITIES

T 30549



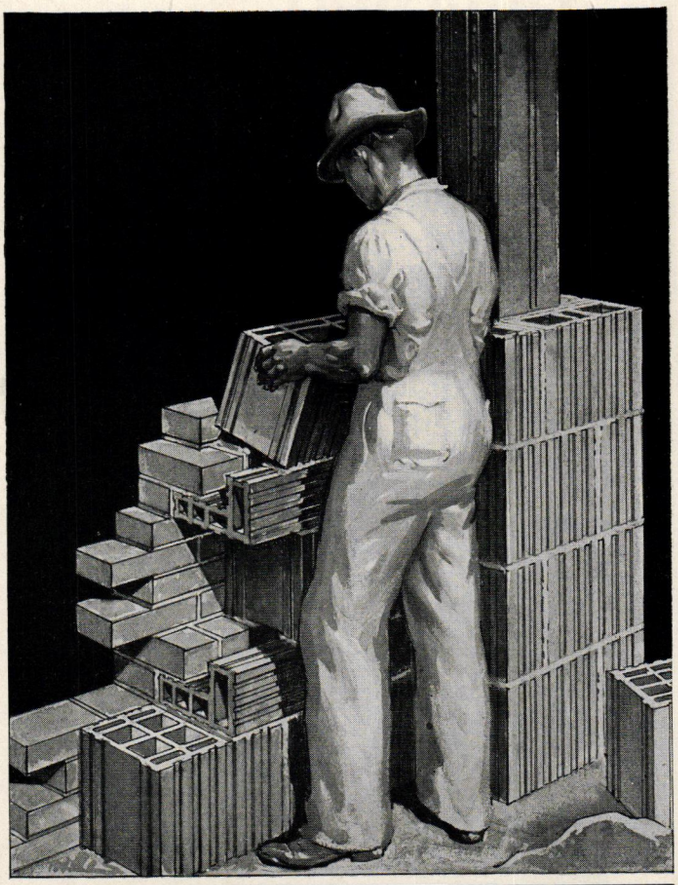
Westinghouse

Products for the Building Industry include:

Circuit-Breakers
Fans
Fuses
Insulating Materials
Mazda Lamps
Meters
Lighting Fixtures
Motors and Control
Panelboards
Ranges
Safety Switches
Solar Glow Heaters
Switchboards
Transformers
Water Heaters

FOR THE PROTECTION OF STEEL WORK

NATCO STRUCTURAL CLAY TILE IS THE RECOGNIZED STANDARD



It is essential that steel columns, and the girders and beams projecting below the floor slab, be protected by at least two inches of fireproofing material. Experience has proven that well-burned hollow tile (vitrified at a temperature of about 2000°, and so immune to flame) has no equal as a covering for structural steel or iron, both to bar fire, and guard against corrosion.

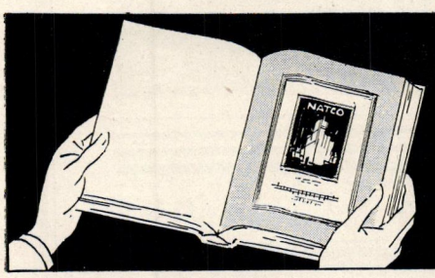
Natco Girder and Column Covering saves from 50 to 75% in weight over concrete or brick covering. There is a shape to fit almost any condition. The fireproofing can be put in place *complete* for close to the same price it costs to erect box forms about the beams to receive concrete. No forms are needed to hold the tile in place, and there is no period of waiting for shores or forms to be removed. And the tile provides an ideal plastering surface, on which only two coats are needed.

In case of a serious fire, the integrity of the entire structure depends on the *proper protection* of the steel-work—a responsibility that Natco Girder and Column Covering has demonstrated its ability to adequately meet.

NATIONAL·FIRE·PROOFING·COMPANY
General Offices: Fulton Building, Pittsburgh, Pa.

Branch Offices: New York, Chanin Bldg; Chicago, Builders Bldg; Philadelphia, Land Title Bldg; Boston, Textile Bldg.
In Canada: National Fire Proofing Co. of Canada, Ltd., Toronto, Ontario

NATCO
THE COMPLETE LINE OF STRUCTURAL CLAY TILE



PAGE A383 – A416

TURN TO "SWEET'S"



If I were an Architect

By
Mrs. Marion Holloway

I WOULD review every detail in designing a home, from the standpoint of convenience to women. I would remind myself continually that homes are "lived in" most of all by women; that many appointments of the home continue to ignore the needs of the modern woman.

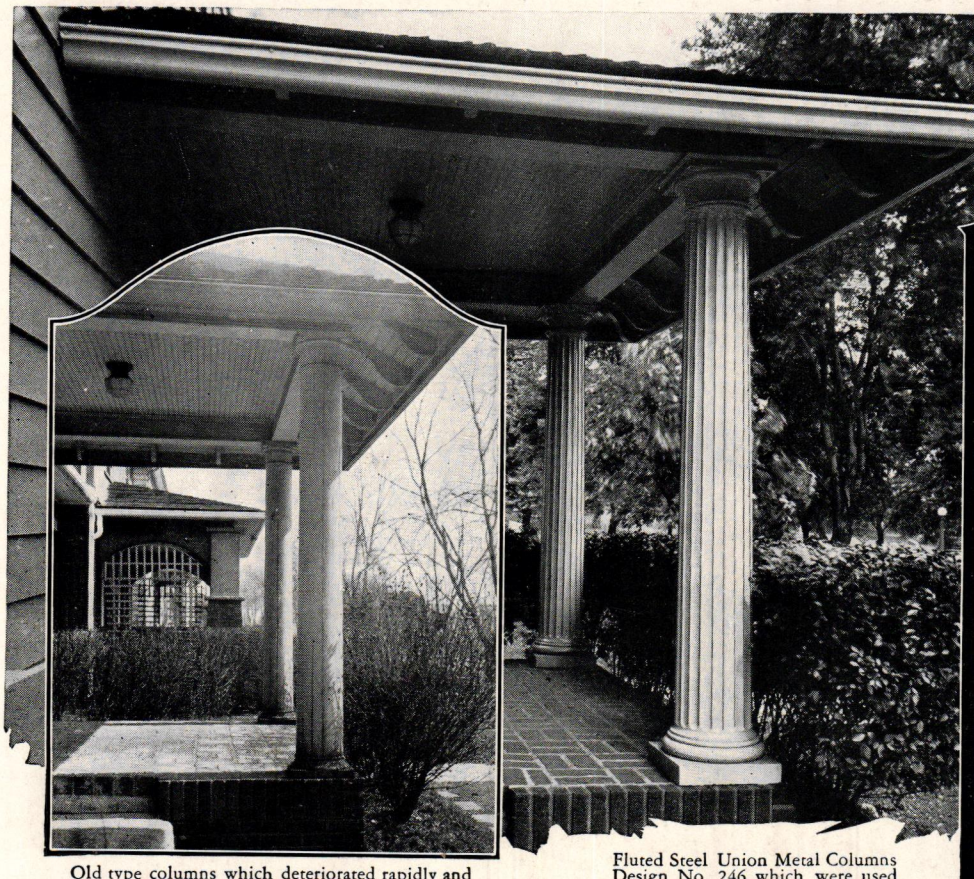
I would remember that women are shoppers — that one additional household convenience often decides a woman in her choice of an apartment or home. Now there is a modern water closet that is decidedly superior from a woman's point of view.

Countless women have come to know the Improved Madera as the one toilet that really passes a sanitary pad "as easily as a piece of tissue"... that ends forever the fear of embarrassment of stopped-up toilets. Specially built to provide for this sanitary problem, it has an *extra* large trapway, and powerful twin-jet siphon flushing.

I would specify the Improved Madera — if I were an architect — not only because the millions of women who are reading about it in national magazines will instantly recognize this superior appointment, but because it is thoroughly modern and a counterpart of beautiful bathrooms.

It is properly quiet. The beautiful Durock body is easy to keep clean. It is hygienically designed . . . long bowl and long comfortable seat. And it is available in white, solid tints and colors, and Blentone colors, to harmonize with any bathroom interior. Thos. Maddock's Sons Co., Trenton, N. J.


Fine Floors Like Fine Fixtures Add to the Attractiveness of Merchandise Displayed
"U. S." RUBBER TILE FLOORS
Beautiful, quiet, sanitary, comfortable and durable.
Furnished in exclusive color combinations and designs.
Catalog and full information furnished on request.
United States Rubber Company
1790 Broadway
US
New York City
Room 1608
PRYOR



Old type columns which deteriorated rapidly and had to be replaced. Note how the joints opened.

Fluted Steel Union Metal Columns Design No. 246 which were used for replacement.

For *Old* Buildings as Well as New —Union Metal Columns

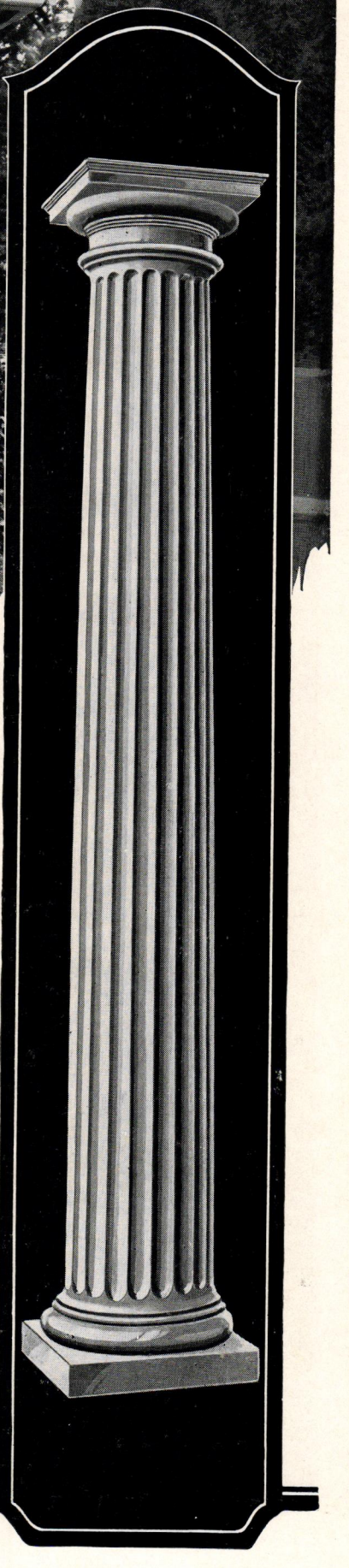
THOUSANDS of old style columns are repaired every year—and thousands more must be entirely replaced. When they are replaced with Union Metal Pressed Steel Columns they may be forgotten as far as upkeep is concerned.

Union Metal Columns are fabricated from enduring steel. They can't rot. They can't split or open at the joints. And due to their manufacture from copper-bearing galvanized steel and their coating of metalastic paint, they resist rust.

Either on new buildings or in remodeling, an installation of Union Metal Columns insures you a lifetime of service with no upkeep costs other than a coat of paint at long intervals.

Moreover, these columns are low in initial cost and can be quickly and economically installed. Any building that is worthy of columns is worthy of good columns. Write today for the Union Metal story.

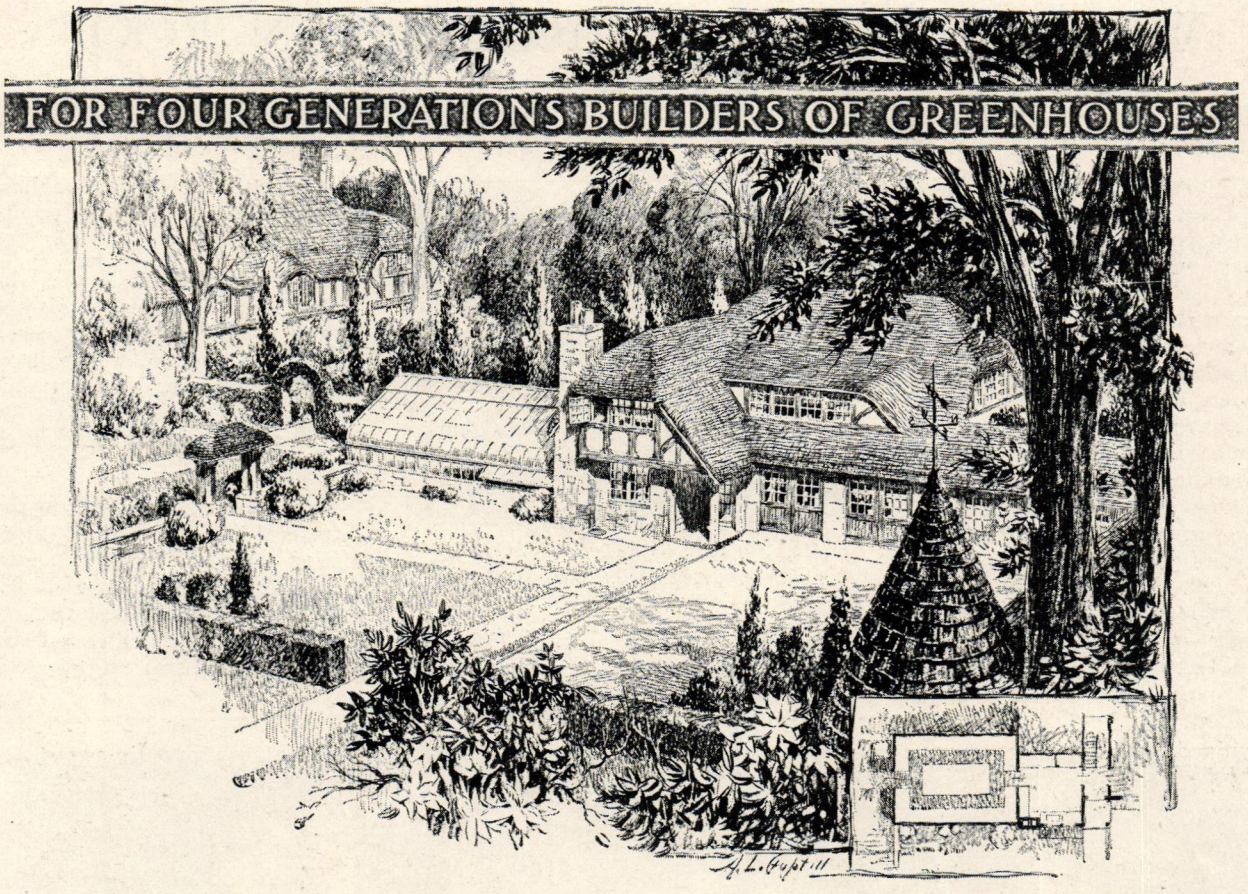
THE UNION METAL MANUFACTURING CO.
General Offices and Factory, Canton, Ohio
Sales Offices—New York, Chicago, Philadelphia, Cleveland, Boston, Los Angeles, San Francisco, Seattle, Dallas, Atlanta.
Representatives throughout the United States



Union Metal Design No. 246, True Roman Doric Column. This is one of ten classical designs made in heights from 5 feet to 35 feet and in diameters from 8 inches to 42 inches.

UNION METAL COLUMNS

"THEY LAST A LIFETIME"



Another Angle on the Link-Up of Greenhouse and Garage

[*Being No. 5 of a Series of 12*]

YOU might say from a glance at Mr. Guptill's sketch, that the greenhouse directly adjoined the garage, with its chauffeur's living quarters above. But not so. The plan reveals a connecting workroom. Which is as it should be, as an insurance against injury of the plants from the cars' exhaust fumes. A vital consideration often overlooked.

Note how the curved eaves of this standard 18 x 25 foot greenhouse harmonize with the curved shingle thatch of the other buildings. All of which, seemingly little things, are not little, as you architects so well know.

That's why we are prompted to mention the possible advantage of our leaning over the board with you on your preliminary plans. The question of insuring proper growing conditions may prove of no little value to you.

This is Number 5 of the Guptill series of Greenhouse placements. To the previous ones you are welcome. By sending us your name, copies will be sent of the series in advance of publication.

Lord & Burnham Co.

Irvington, N. Y.

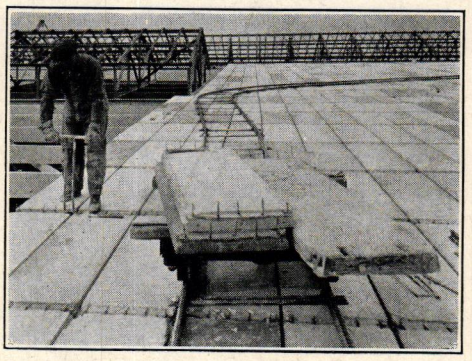
New York	Denver
Albany	Detroit
Philadelphia	St. Louis
Chicago	Greensboro, N. C.
Boston	Montreal
Buffalo	St. Catharines
Cleveland	Toronto

WORLD'S LARGEST SINGLE SPAN ROOF

Decked With GYPSTEEL Pre-Cast Gypsum Slabs

THE entire roof of the Atlantic City Convention Hall, is decked with Gypsteel Pre-Cast Long Span Gypsum Slabs. The auditorium roof, alone, has an area of 170,000 square feet. It is about 500 feet long, and has a clear span of 350 feet.

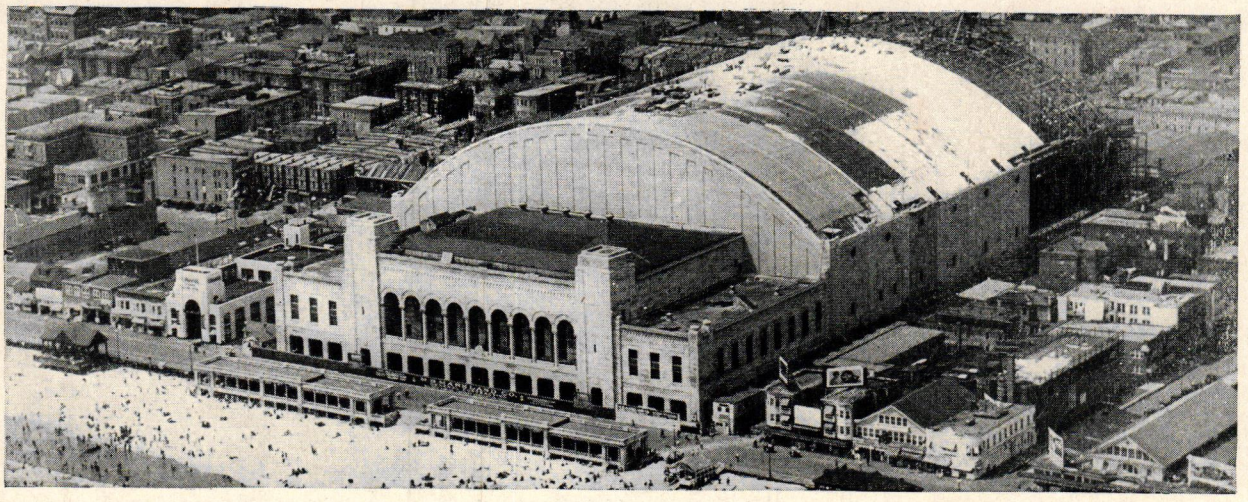
Lockwood, Green & Co., the engineers, used the Gypsteel System on this roof because they had used it before and knew its qualifications. They knew it was fireproof. They knew its light weight meant economies in steel. They knew that no scaffolding or false work would be required. They knew that there would be practically no heat loss in winter—that the saving in heating cost, over other roofs, would amount to from $1.50 to $3.50, for each 100 square feet of roof. They knew that there would be no maintenance or upkeep costs.



Method of tying Gypsteel Roof Slabs to give roof definite, computable, structural strength

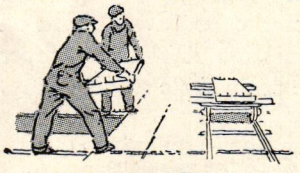
There were no delays in the Gypsteel installation over this vast area of roof. The roof progressed as rapidly as the steel was in place. Work went on regardless of temperature, as Gypsteel roofs can be laid in any weather in which men can work.

Additional information on the Gypsteel Pre-Cast Roof and information on the Gypsteel Pre-Cast Gypsum Floor System and Gypsteel Partition Tile, will be found on Page A-178 of Sweet's Catalogue. Our complete Catalogue with designing details, will be sent on request.

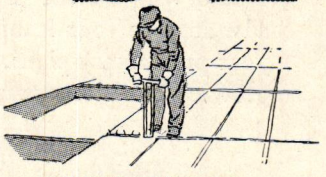


The Convention Hall at Atlantic City has a roof area of 220,000 square feet. The roof deck is of Gypsteel Pre-Cast Gypsum Slabs. Lockwood, Green & Co., *Engineers*

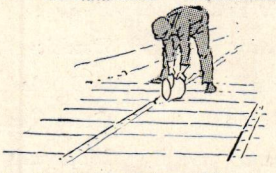
GYPSTEEL



Laying a Gypsteel slab



Tying the reinforcement



Grouting the joints between slabs

General Offices: Linden, N. J.

STRUCTURAL GYPSUM CORPORATION

Sales Offices in Principal Cities

MEDICAL ARTS BUILDING
Cleveland, Ohio





Architects: GRAHAM, ANDERSON, PROBST and WHITE, Chicago
Plumbing and Heating Contractor: A. R. BRUEGGEMAN CO., Cleveland, Ohio

ARCO METAL PIPE

A REMARKABLE ALLOY CAST IRON PIPE THAT CAN BE CUT AND THREADED WITH STANDARD PIPE TOOLS. Arco Metal Pipe is made from a special analysis nichrome alloy iron, and cast by a process which gives it greater ductility and tensile strength and, also, greater corrosion and erosion-resisting qualities than ordinary gray cast iron—yet it can be cut and threaded with the same tools used on wrought steel and iron.

Arco Metal Pipe has overcome all of the limitations of cast iron and retained all of its superior qualities.

Arco Metal Pipe is made in the following sizes—1½", 2", 2½", 3", 4", 5", 6", with the same dimensions as extra strong wrought steel and iron pipe. Each length is tested by hydrostatic pressure from 300 to 1000 lbs. per square inch. All standard flow tables for extra strong wrought steel and iron pipe can be used in figuring capacity for Arco Metal Pipe.

Arco Metal Pipe will insure permanence in sanitary and heating lines and all installations where corrosion is a factor.

"Our experience with the installation of ARCO METAL PIPE in the Medical Arts Building has been satisfactory in every way. We used about eight carloads of your pipe for soil, waste, and vent lines, including branches of the plumbing system. This pipe was all assembled with screw thread joints. Our men cut and threaded the pipe on the job with the same tools used regularly for wrought steel and iron pipe."

(*Signed*) A. R. BRUEGGEMAN, President
A. R. BRUEGGEMAN COMPANY

Write today for catalog giving complete information

AMERICAN RADIATOR COMPANY

40 West 40th Street, New York

BRANCHES in all PRINCIPAL CITIES

Lovely Old Chatham

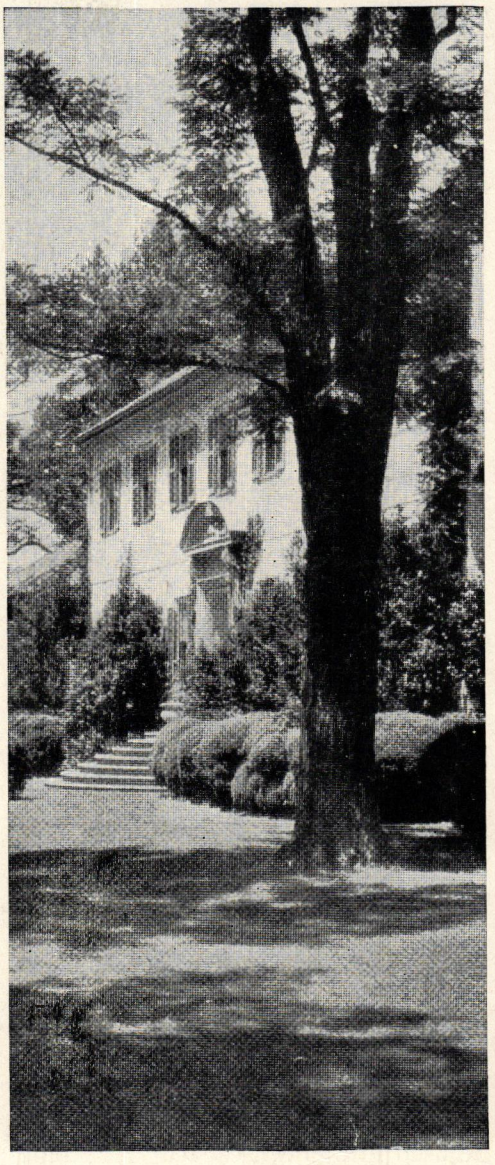
One of Virginia's Rarest Gems

Being Brick Tale Telling
Number XXI

VIEING with Westover, Shirley and Carters Grove of James River fame, stands romance-laden Chatham, overlooking the Rappahannock at Fredericksburg. 'Tis a bit vague, its actual founding, but the evidence points strongest to 1721. Leastwise, I've seen a brick from one of its chimneys bearing that date.

In any event, it's credited to William Fitzhugh. 'Twas his brother, you may recall, who was such a friend of William Pitt. None other than the Earl of Chatham, for whom the estate was named.

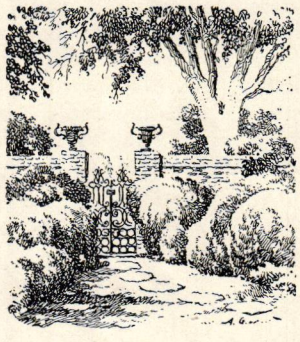
Entertained here, have been many of the gracious and great. Among them, all the early Presidents down to Lincoln, who made it his headquarters during a visit to the Army of The Potomac.



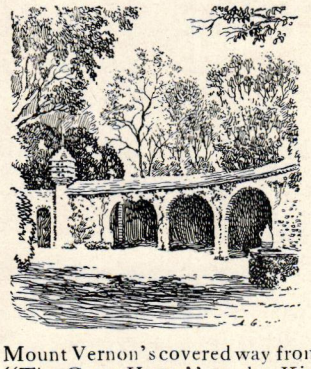
Under one of its trees General Lee courted his wife. Out of sentimental regard for the place, Lee spared its destruction during the victorious battle of Fredericksburg, when McClellan was so outgeneraled.

Chatham is owned by The Colonel Devores of Washington.

Right now, down here at Salem, we are making just such mould-made bricks as were used in Chatham. Interesting in off-shapeness. Soft and time-toned in their colorings. You'll admit there are none quite like them for giving delightful age-old effects. Made in either standard, or the true Jefferson size. Which latter, we find, architects quite prefer. Send for a Brick Kit. See for yourself.



Near this gate is the Great Coffee Tree which George Washington planted. In fact, the Old Ball Farm where he was born, is right near by.



Mount Vernon's covered way from "The Great House" to the Kitchen, is reminiscent of this "temporary shelter," as it is called.

OLD VIRGINIA BRICK

Old Virginia Brick Company
Salem, Virginia

Interior Finishes and Their Lasting Importance

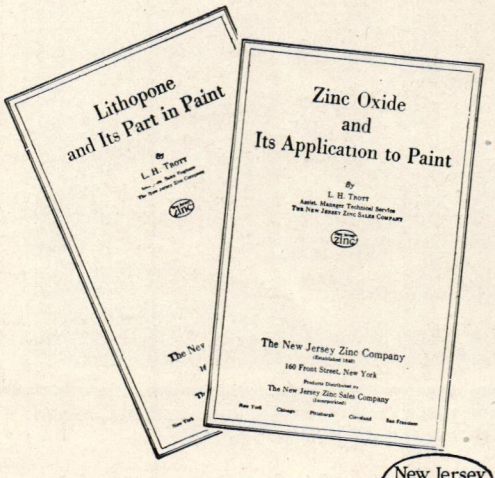
LASTING impressions of public and office buildings are formed from their interior finishes.

If the mental picture of your creation is to be realized, the clear tints of bright and clean ceilings, walls and woodwork must remain an actual part of the building.

For this lasting effect use a paint you know does not discolor—one which can be easily washed. For economy, specify a paint of great hiding power and high rate of spreading.

"Albalith" super-Lithopone is the base pigment for paints—either flat or gloss interior finishes—scientifically formulated to give lasting color, high hiding power and high spreading rate.

Lithopone is the most used interior paint pigment—and "Albalith" super-Lithopone is the leading brand. Our booklet, "Lithopone and Its Part in Paint," will explain the wide-spread use of this zinc pigment.



The New Jersey Zinc Sales Company

160 Front Street
New York

COUPON

Please send me your booklets on "Albalith" super-Lithopone and Zinc Oxide.

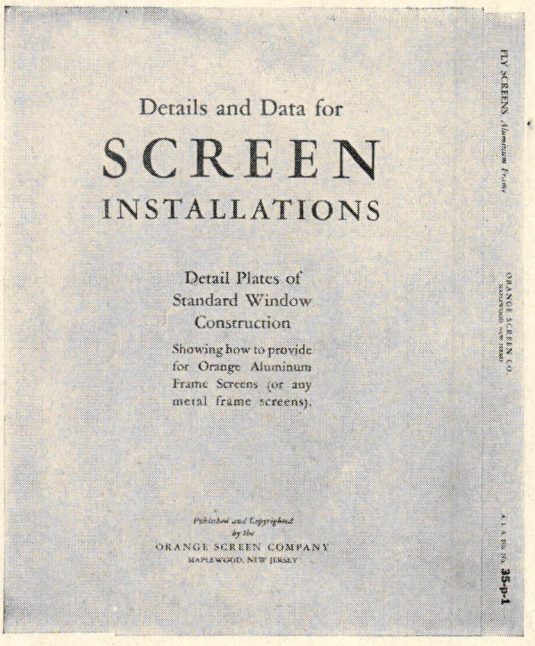
Name.....

Address.....

P-4

Useful Fly Screen Installation Details

A Catalog on Fly Screens— Edited to be of Practical Value in the Drafting Room and on the Specification Writer's Table.

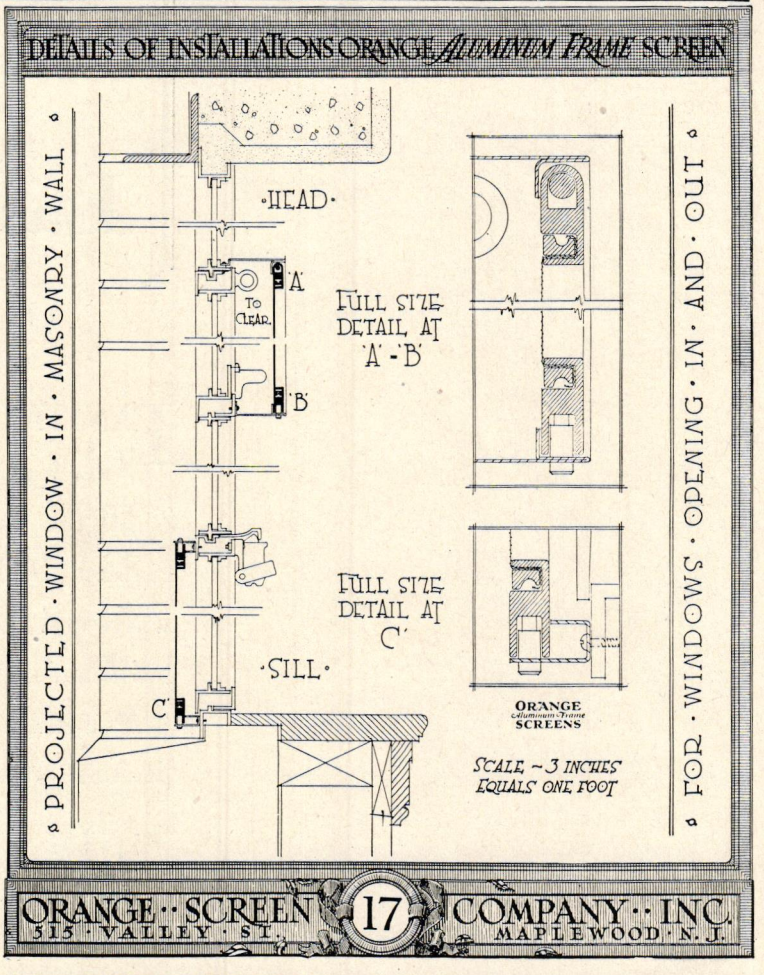


While this catalog is intended primarily to familiarize architects and builders with the ORANGE *Aluminum Frame* SCREEN, it will, nevertheless, also serve as a helpful guide for the installation of any metal frame fly screen.

This catalog contains 24 pages: 7 pages of text and small explanatory detail drawings, and 17 plates similar to the one shown. Inside of the back cover is a portfolio containing 34 loose-leaf plates, two complete sets of the 17 plates bound in the catalog. These plates are to be used freely in the drafting room — duplicates can always be obtained from the Maplewood, New Jersey, office of the Orange Screen Company. The text-matter and plates cover most of the screening problems encountered in domestic and commercial work.

Since 1910 we have specialized in complete screen equipment. Today our installations cover almost every type of building. Industrial plants handling food stuffs, hospitals, clubs, hotels, banks, government buildings, homes, and resorts.

If you design buildings in which fly screens are installed, you will be glad to have our catalog. It will be a time-saver for your office.





PROVIDENT MUTUAL LIFE INSURANCE COMPANY, PHILADELPHIA, PENNA.
CRAM & FERGUSON, Architects

Complete screen equipment for this building was manufactured and installed by the Orange Screen Company. We design, manufacture, and install fly screens in any type building.

ORANGE SCREEN COMPANY

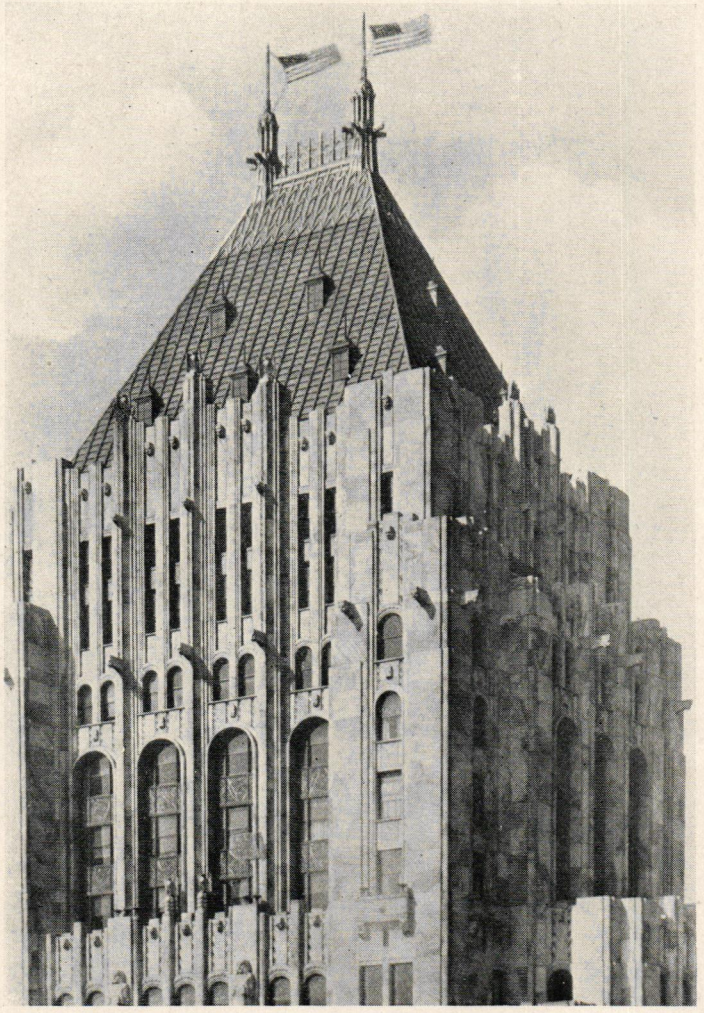
515 Valley Street **Maplewood, New Jersey**

FEDERAL SEABOARD TERRA COTTA

The
FISHER Building

Albert Kahn
Architect

H. G. Christman - Burke Co.
Builders



THE roof of the prize winning Fisher Building is entirely of Federal Seaboard Terra Cotta in very large units. The color is multichrome green—the ribs of nugget gold.

FEDERAL SEABOARD TERRA COTTA CORPORATION

Offices:
10 E. 40th St., N.Y.C.

Telephone
Ashland 1220

F S T C

Factories: **Perth Amboy, N. J. — Woodbridge, N. J. — South Amboy, N. J.**



FOUR SUMMERS A YEAR INSTEAD OF FOUR SEASONS

Doctor Johnson said that nobody ever read Robinson Crusoe without wishing it were longer . . . and everybody feels the same way about Summer . . . children dream of its arrival and poets deplore its departure . . . the face of the world is lifted to the sun and the hearts of young and old seem to blossom with the flowers! . . . outdoors, of course, Summer can never be anything but one season out of four . . . but indoors, an American Radiator plant makes life a perpetual Summer . . . keeps the house warm and the family well . . . lightens a woman's cares and a man's expenses . . . preserves health, promotes happiness, and caters to the human longing for continually finer living conditions in the home.

Not expensive . . . in fact . . . not an expense . . . but an investment in family welfare and property improvement.

I am interested in . . .

- receiving particulars of your convenient payment plan by which my home may be heated for less than $75 a room.
- receiving interesting book with illustrations in color . . . "Heat and the Span of Life."
- receiving information on the Arco Vacuum Cleaner

The fuel I plan to use is: • Coal • Coke • Oil • Gas

MY NAME IS _____

MY ADDRESS IS _____

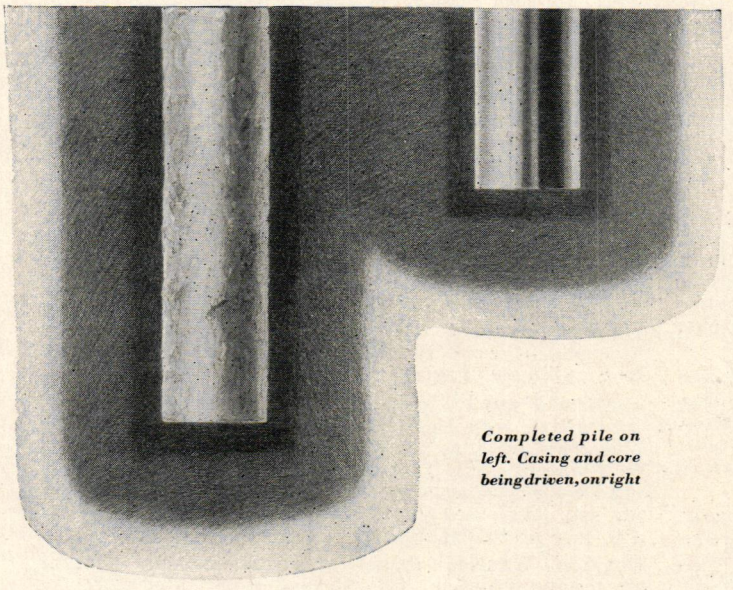
CITY _____ STATE _____

AMERICAN RADIATOR COMPANY

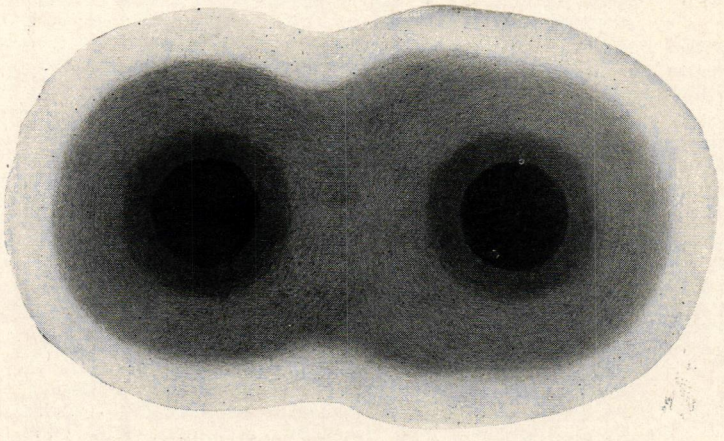
40 WEST 40th STREET, NEW YORK • AND ALL PRINCIPAL CITIES

This advertisement is one of many that are being published by the American Radiator Company as their contribution to the far-reaching campaign to "bring America back home."

COMPRESSION
insures perfect concrete piles on close centers!



Completed pile on left. Casing and core being driven, on right



The "dry" concrete (just sufficient water to bond) in the completed pile, was compressed under a weight of seven tons while the casing was being withdrawn. Obviously, no back pressure ever equals that force. Also, the compression adds to the skin-friction created by the driving of the steel core and half-inch thick steel casing.

The soil being displaced by the pile in process of being driven will follow the line of least resistance, which is *away* from the highly compacted finished pile and the earth surrounding it, which is also compacted by the compression of the concrete.

The lower view shows the flow of the soil and explains why MacArthur Compressed Concrete Piles when driven on 2′ 6″ centers, are perfect piles and why they have *extra* load-bearing value.

Driving every type of pile, architects and engineers have found that our advice is unbiased. May we serve you?

Check your requirements against MacArthur qualifications:

Product . . *proven*	Resources . *unlimited*	Performance . *100%*
Experience . *19 years*	Personnel . *capable*	Engineering . *sound*
Equipment . *latest*	Clientele . *illustrious*	Speed . *record-making*
	Responsibility . *demonstrated*	

MacARTHUR
CONCRETE PILE CORPORATION

19 West 44th St., New York City

Branch Offices: Chicago, New Orleans, Boston, Pittsburgh
Detroit, Philadelphia, Cleveland
Canadian MacArthur Concrete Pile Co., Ltd., Montreal

A Free Employment Service for Readers of Pencil Points

Replies to box numbers should be addressed care of PENCIL POINTS, 419 Fourth Avenue, New York, N. Y.

Architectural Draftsmen required for a number of good positions which are coming into the office constantly. Draftsmen who have had good experience in architects' offices find our service very satisfactory. We do not charge a preliminary fee of any kind. Established 35 years. Address Architectural Department, The Engineering Agency, 53 W. Jackson Blvd., Chicago, Illinois. (*Adv.*)

Wanted: Architectural draftsman, capable of getting out attractive sketches as well as working drawings. Give full particulars in first letter. E. L. Robertson, Calumet Building, Miami, Florida.

Wanted: Architectural designer and delineator. Must be familiar with Medieval Architecture and be capable of making sketches quickly and neatly. Familiarity with construction not required. Medium size office in Middle West. Steady employment for right man. Box No. 401, care of PENCIL POINTS.

Position Wanted: Licensed architect in Illinois, 27 years of age. Gentile. University graduate in architectural engineering; three years' experience in architectural offices as draftsman, structural designer, superintendent, contract and specification writer. Desires position or partnership. Prefer Illinois or California location. Box No. 402, care of PENCIL POINTS.

Position Wanted: Young man, age 20, with two years' experience, also two years of technical school work, wishes work in New York City office. Neat tracer and letterer. Can submit samples of work. Willing worker wishes position with good future prospects. Box No. 403, care of PENCIL POINTS.

Wanted: Architectural draftsmen wanted at Irvington, New York, for preliminary plans and sketches on greenhouses, conservatories, etc. One junior draftsman to make snappy architectural drawings and one with artistic ability capable of rendering. Give full particulars as to experience, age, salary, etc., in first letter. Box No. 437, care of PENCIL POINTS.

Position Wanted: A-1 architectural designer, settled man, with wide experience, quick sketches, perspectives in color, detail, etc., would prefer management of small office or associate. Box No. 405, care of PENCIL POINTS.

Position Wanted: Secretary, architectural experience (stenography, bookkeeping, etc.) capable taking complete charge of office. Can begin work at once. References. Box No. 406, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, 33 years of age, married, desires permanent position on salary or commission basis in small office in Florida or Texas preferred. Ten years' experience in sketching, designing, details, specifications and complete working drawings. Swift, accurate and dependable. Box No. 407, care of PENCIL POINTS.

Position Wanted: Young man, age 32, studied architectural drafting one year. 4 years' general office experience. Box No. 408, care of PENCIL POINTS.

Position Wanted: Thoroughly trained draftsman, 4 years' experience in office of prominent architects in Italy and Berlin; modern interiors, perspectives, sketches and their completion. Salary optional. Box No. 409, care of PENCIL POINTS.

Position Wanted: Young man, 27 years of age, Pratt Institute architectural student desires position in architect's office in or near New York City. Can submit samples of work. Salary secondary. Box No. 410, care of PENCIL POINTS.

Partner Wanted: I have an established architectural practice and fully equipped office in one of the large centers of population in the east, and I desire to take in a man of architectural ability. In reply please state present and past connections, experience and education, also present responsibilities. Box No. 411, care of PENCIL POINTS.

Position Wanted: Draftsman having school and office training with seven years' experience on schools, office buildings, apartments and residences, desires connection with architect's office in New York City. Thoroughly capable of all duties of senior draftsman. Married, Associate Member A.I.A. Box No. 412, care of PENCIL POINTS.

Position Wanted: Junior draftsman and surveyor, high school graduate, three terms college, civil engineering, 1 year office work, desires position in Philadelphia or vicinity. Married, 21 years old. Studying architecture at night school. H. R. Gehring, A-1 Bernola Apts., Rittenhouse Place, Ardmore, Pa.

Partner Wanted: Architect, 45, married, member A.I.A. Paris trained designer with practical experience in all types of work, mainly in New York City and suburbs, but with insufficient clientele, desires association or partnership with established architect. Will go anywhere. Box No. 414, care of PENCIL POINTS.

Position Wanted: Young man, 24, would like to start as junior draftsman. 3 years' experience in evening school, and 4 years in outside work in building line. Good letterer. Box No. 415, care of PENCIL POINTS.

Position Wanted: Young man, 18 years old, high school graduate, finishing second year at Cooper Union, desires beginner's position. H. E. Reitman, 631 East 138th St., New York, N. Y.

Position Wanted: Experienced architectural draftsman in charge of work desires responsible position in busy small office doing work of merit. Detailed experience and specimen of work submitted on request. Box No. 417, care of PENCIL POINTS.

Position Wanted: Young woman, 24, University graduate in drawing with one year's drafting experience in small office (which means varied work) desires drafting position in Chicago office. Wants reasonable living wage and chance for advancement. Can do stenographic work, typing specifications, etc. Reference upon request. Box No. 418, care of PENCIL POINTS.

Position Wanted: Registered architect and engineer, Protestant, married. Capable and experienced executive and contact man. Twenty years' experience in drafting room, specification writing, superintending and in contract estimating and purchasing. Salary commensurate with proven ability. An association with well established firm desirable. References. Middle west location preferred. Box No. 419, care of PENCIL POINTS.

Position Wanted: Registered architect and civil engineer desires responsible position with architect. Young man, medium designer, good draftsman, proficient in all ranches architectural work including specification writing, and electrical and mechanical supervision. Box No. 421, care of PENCIL POINTS.

Position Wanted: Young man, capable draftsman, studying architecture at technical school, would like summer position. Anything to get experience. Ralph A. Carlson, 130 73rd Street, Brooklyn, N. Y.

Wanted: Architectural designer, experienced and competent. Preliminary studies, work involving institutional, educational, group, office, public and commercial buildings. Permanency and salary commensurate with ability. Mills, Rhines, Bellman and Nordhoff, architects, 1234 Ohio Building, Toledo, Ohio.

Position Wanted: Architectural draftsman, 30 years old, for past year in charge of architecture for Kem Weber; desires a permanent position in busy office. Can produce at low cost all the drawings that are necessary to erect any kind of building. Good knowledge of contemporary style of architecture. Salary $275.00. E. Monier, 1231 Viola Ave., Glendale, Calif.

Position Wanted: Princeton junior architectural student desires position as junior draftsman for summer and after graduation, 1930. Salary as offered. Charles Mattloge, 1-A Holder Hall, Princeton, N. J.

Position Wanted: Architect's or builder's superintendent. Wide experience. No job too large. All branches of construction. Go anywhere, country preferred. Box No. 422, care of PENCIL POINTS.

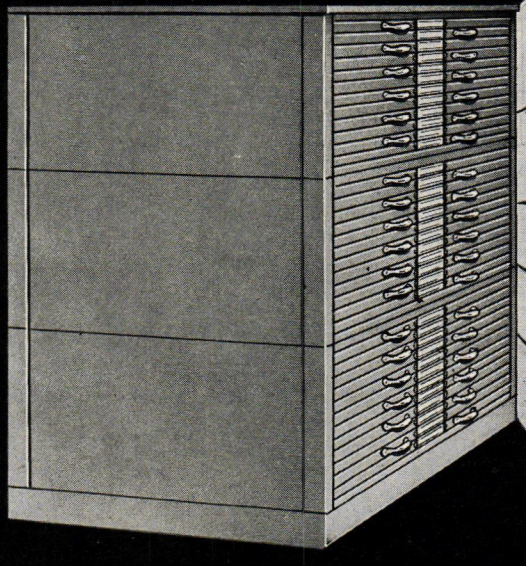
Will Carleton-Gwynne Baughman, who prepared the specifications for University of Illinois Stadium, Palmer House, Hotel Stevens and Hotel Sherman addition, desires position with high class architect. Box No. 423, care of PENCIL POINTS.

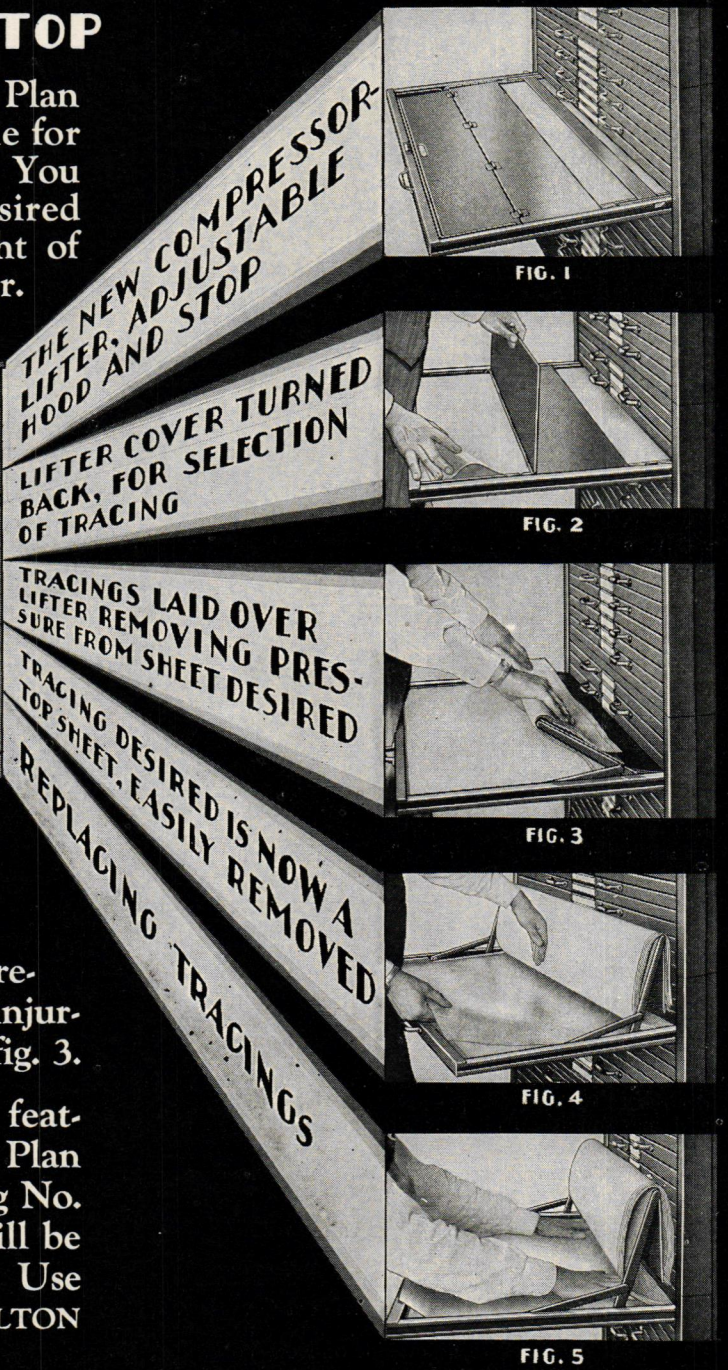
(Other items on pages 170, and 436, Editorial Section)

Remove the Pressure
That Ruins Valuable Tracings

EVERY SHEET ON TOP

The new Hamilton-Calumet Plan File System makes it possible for every sheet to be a top sheet. You don't have to "drag" the desired tracing from under the weight of the other sheets in the drawer.





The patented Tracing Lifter, removes the pressure that is so injurious to valuable tracings, see fig. 3.

This is only one of the new features of the Hamilton-Calumet Plan File System. Our new catalog No. 8 is now off the press and will be sent to anyone upon request. Use the coupon. There is a HAMILTON dealer near you.

HAMILTONIZE and ECONOMIZE

HAMILTON MFG. CO.
TWO RIVERS, WIS.

Hamilton Mfg. Co., Two Rivers, Wis.
Please send me Catalog No. 8-U

Name_____
Address_____
City_____ State_____

A Free Employment Service for Readers of Pencil Points

Replies to box numbers should be addressed care of PENCIL POINTS, 419 Fourth Avenue, New York, N. Y.

Perspective Renderings, expertly and promptly done in tempera, water color or black and white. Prices $50 and up. Mail working drawings and instructions to Box No. 424, care of PENCIL POINTS.

Aerial Perspective Views drawn and rendered in any medium. Box No. 425, care of PENCIL POINTS.

Renderings of perspectives or elevations in any medium. Mail drawings and instructions to **Renderer,** 2820 Bell St., New Orleans, La.

Position Wanted: Draftsman, 8 years' experience in the design, planning and construction of residential work, desires to connect with firm doing this type of work who can use an A-1 man and can offer him a permanent position. Box No. 426, care of PENCIL POINTS.

Position Wanted: Capable architectural draftsman, 15 years' experience on working drawings, general office work, etc., desires to connect with Boston architect where good work and congenial atmosphere supersede salary. Box No. 427, care of PENCIL POINTS.

Texas Architects! Position wanted by thoroughly capable draftsman who desires change. Ten years' experience in both large and small offices. Now in office of internationally known architect. Particularly expert at full-size detailing and familiar with all phases of draftsmanship. A worker. Age 27. Further particulars available. Box No. 428, care of PENCIL POINTS.

Position Wanted: Draftsman, 7 years on all types of work, capable of carrying drawings from sketches to completion, seeks permanent position in New York City. Will consider out of town engagement. Salary $60.00. Box No. 429, care of PENCIL POINTS.

Position Wanted: Architect, registered, designer and draftsman, thoroughly experienced, desires executive position of responsibility. Box No. 430, care of PENCIL POINTS.

Wanted: There is an excellent position open with a high grade firm manufacturing church, school and auditorium furniture in the middle west for a man of the following qualifications: Middle aged man having architectural experience in designing and detailing high grade church interiors, consisting of chancel furniture, pews, etc. Preference would be man who has made a study of Ecclesiastical Art as the work would consist mostly of creating designs for interiors of the different denominations of religious institutions. Please give full particulars regarding experience, age, salary wanted, etc., in first letter. Box No. 431, care of PENCIL POINTS.

Position Wanted: First class senior draftsman and superintendent considering change would like to secure position in South or Southwest. Thoroughly competent and can furnish good references. Box No. 432, care of PENCIL POINTS.

Position Wanted: A draftsman of 15 years' experience, last five years in capacity of job captain and chief draftsman, on schools, churches, offices and bank buildings. Capable of taking complete charge of drafting room, desires to make a change. A reasonable salary is asked and location is no object. Box No. 433, care of PENCIL POINTS.

Position Wanted: Terra Cotta draftsman, 1st class, would like change where there is a future for hard worker. Office or outside work. Consider stone or marble business. Good structural and mechanical knowledge. Box No. 434, care of PENCIL POINTS.

Position Wanted: Draftsman experienced on small houses and fireproof and nonfireproof apartment houses. Capable of working out complete job, elevations and plans, from sketches to detail. Will go outside of New York. Box No. 435, care of PENCIL POINTS.

Position Wanted: Carpenter and cabinet maker, thoroughly experienced on interiors, alterations, etc. Would like to work for architect, interior decorator or go partner with them. Anywhere as long as outlook warrants location. Write full particulars. D. Bosse, P. O. Box 195, Times Plaza Station, Brooklyn, N. Y.

Wanted: A Southern College desires the services of a full Professor of Architecture to teach advanced design and History of Architecture. Must be a university graduate and with teaching experience. Salary $3,000.00; school session nine months. R. E. Lee, Prof. of Architecture, The Clemson Agricultural College, Clemson College, S. C.

Position Wanted: Young man, 18 years of age, Lane Tech. Architectural graduate, desires to work into a permanent position with architect. Orin F. Bolling, 1248 Nelson St., Chicago, Ill.

Position Wanted: Architectural student, 18 years of age, desires position with New York architect. High School graduate and has just completed second year at Cooper Union High School. H. E. Reitman, 631 East 138th Street, Bronx, N. Y.

Position Wanted: Young architectural student would like position in architect's office. Any capacity in order to learn. Start at the bottom. John Malfa, 941 East 221st Street, New York, N. Y.

Position Wanted: Young lady, expert tracer, would like to locate in architect's or engineer's office, in or around New York. Eight years' experience, in drafting room and attending to all clerical work. 28 years old, have travelled extensively, High School graduate, also Finishing School. Moderate salary. Box No. 436, care of PENCIL POINTS.

Position Wanted: Architectural evening student would like to start in architect's office as junior draftsman or beginner. One year's training at New York University. Herman Shimansky, 587 Blake Ave., Brooklyn, N. Y.

Rendering and Perspective Layouts, any medium. Miriam Flick, 210 East 77th St., New York, N. Y. Telephone, Rhinelander 2174.

Position Wanted: Young lady would like position in New York architect's office doing clerical work. Ambitious and willing worker. Box No. 444, care of PENCIL POINTS.

Wanted: Practicing architect wants work on free lance basis. Box No. 438, care of PENCIL POINTS.

Position Wanted: Architect, registered in three states, 30 years' experience, university and foreign travel training, successful in acquiring clients, recently returned to New York, seeks partnership or connection with younger architect. Country residence work preferred. For appointment address Box No. 439, care of PENCIL POINTS.

Overtime Work Wanted: Architectural draftsman, experienced on office buildings, schools, institutions, hospitals, apartments and residences. Can take a job at any stage and carry to completion with minimum of attention. Box No. 440, care of PENCIL POINTS.

Position Wanted: Hospital specialist (architectural) wants a permanent position with a progressive architect or firm that will guarantee a future for advancement. Am well versed in modern hospital layouts, equipment and all other problems of work. I can make snappy sketches, complete set of working drawings, details, etc. Can handle job from start to finish and get good results from men under my supervision. 16 years' experience (no designing). Box No. 441, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, country residence work. Graduate of Technical School, several years' experience on residence work of high class. Foreign study. Prefers designing end of work but able to carry out practical details. References. Box No. 442, care of PENCIL POINTS.

Position Wanted: Architectural draftsman 5 years' experience on tall office buildings, hotels, hospitals, apartment houses, residences and alterations. Knowledge of plumbing, heating and ventilation. A-1 references. Sidney Diamond, 373 Amboy Street, Brooklyn, N. Y.

Position Wanted: Young man, recent graduate of Lane Technical High School expecting to enter Armour in the fall, desires position with an architectural firm for the summer only. William Andresen, 5251 Montana St., Chicago, Ill.

Position Wanted: Young man, 8 years' experience as draftsman and location man, wishes position with firm requiring a man for installation work to keep in contact with main office and on location. W. J. Brennan, Quassaick Ave., MD.14, Newburgh, N. Y.

Position Wanted: Young man, well educated and ambitious, would like position in architect's office making himself generally useful. Can read plans and do some drafting. New York or vicinity. Box No. 443, care of PENCIL POINTS.

(Other items on pages 168, and 436, Editorial Section)

TRADE MARK.

THE IMPERIAL TRACING CLOTH

HAS NO EQUAL—AVOID SUBSTITUTES

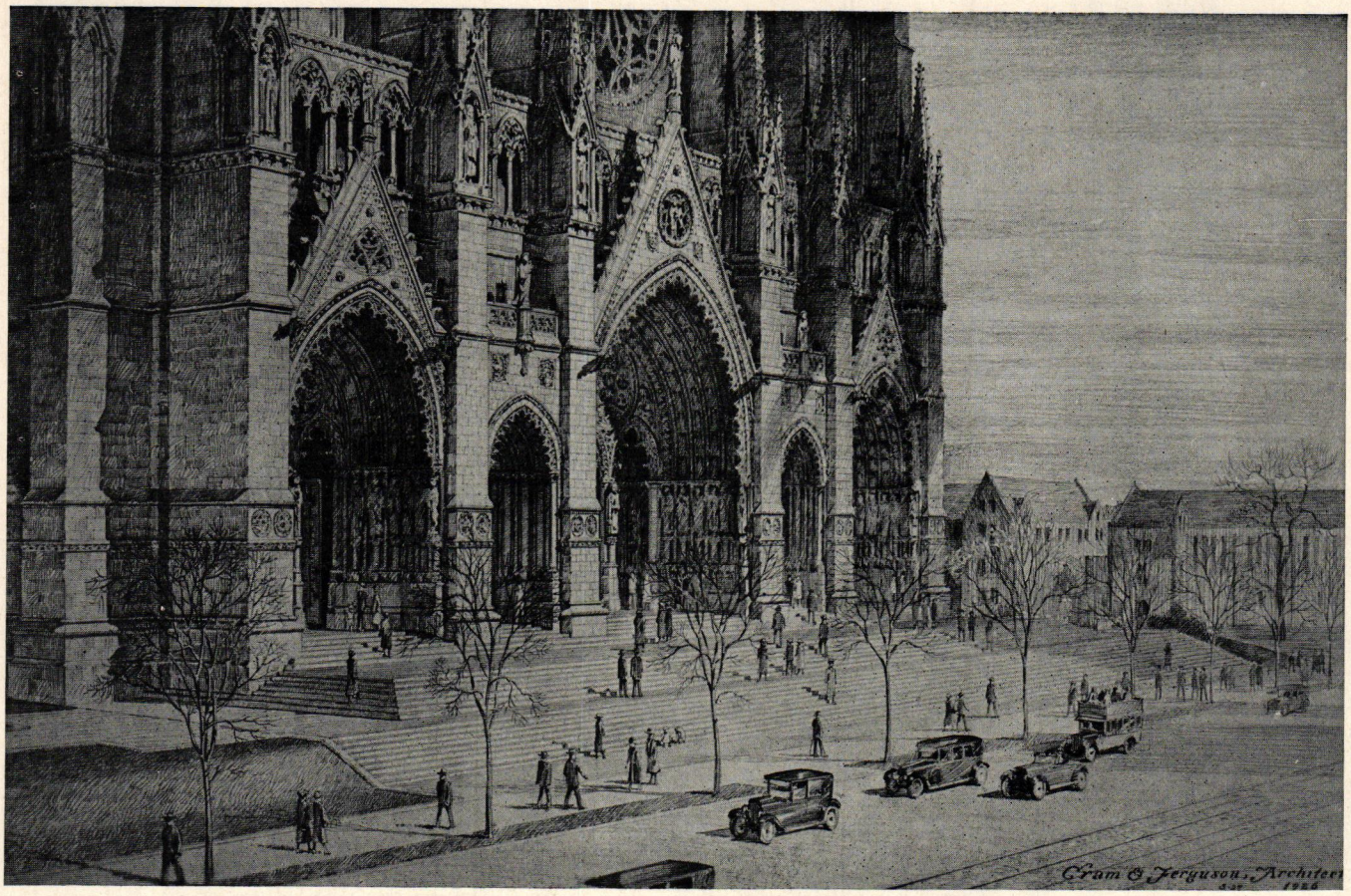
REGD U.S. PAT. OFF.

FOR SALE BY
STATIONERY AND DRAWING MATERIAL DEALERS
EVERYWHERE

THE WORK OF CRAM AN

Including Some Work by

With an Introduction



CATHEDRAL OF SAINT JOHN THE DIVINE, NEW YORK—PERSPECTIVE OF WESTERN PORTALS

THIS work contains 344 plate pages, comprising over 470 illustrations, showing by photographs, renderings, and working drawings the more important work of the firm of Cram and Ferguson together with some work by Cram, Goodhue, and Ferguson. It includes buildings for 41 small and large churches, 12 schools and universities, and several residences. These are shown by general views and details of exteriors and interiors, altars and reredoses, pulpits and other church furniture, sculptured ornament, etc., comprehensively covering the architectural practice of this famous firm extending over a period of more than thirty years, from All Saints' Church, Ashmont, to the Cathedral of Saint John the Divine, the Princeton Chapel, Saint George's School Chapel, and other recent commissions.

368 pages, 11″ x 14″, printed on heavy coated paper. The whole is handsomely bound in buckram, stamped with gold, and enclosed in a slip case.

PRICE $25.00

FERGUSON, ARCHITECTS

ı, Goodhue, and Ferguson

rles D. Maginnis

BUILDINGS AND DETAILS ILLUSTRATED

GOTHIC CHURCHES

All Saints' Church, Ashmont, Mass.
Church of Our Saviour, Middleboro, Mass.
Saint Stephen's Church, Cohasset, Mass.
Emmanuel Church, Newport, R. I.
First Unitarian Church, West Newton, Mass.
Chapel, University of the South, Sewanee, Tenn.
All Saints' Church, Brookline, Mass.
Calvary Church, Pittsburgh, Pa.
Saint Thomas' Church, N. Y.
Greensburg Presbyterian Church, Greensburg, Pa.
Cemetery Chapel, Nahant, Mass.
Saint John's Church, Newport, R. I.
Holy Cross Monastery, West Park, N. Y.
All Saints' Church, Peterboro, N. H.
Saint James' Church, Lake Delaware, N. Y.
Saint James' Church, N. Y.
Swedenborgian Church, Bryn Athyn, Pa.
Euclid Avenue Presbyterian Church, Cleveland, O.
Fourth Presbyterian Church, Chicago, Ill.
House of Hope Presbyterian Church, Saint Paul, Minn.
First Universalist Church, Somerville, Mass.
Chapel at "Whitehall," Estate of Ralph Adams Cram, Sudbury, Mass.
St. Anne's Chapel, Arlington Heights, Mass.
The Sacred Heart Church, Jersey City, N. J.
Trinity Church, Princeton, N. J.
Second Presbyterian Church, Lexington, Ky.
Mercersburg Academy Chapel, Mercersburg, Pa.
Trinity Church, Durham, N. C.
Saint George's School Chapel, Newport, R. I.
Saint Mary's Church, Redford, Detroit, Mich.
Princeton University Chapel, Princeton, N. J.
Baptistry, Cathedral of Saint John the Divine, N. Y.
Cathedral of Saint John the Divine, N. Y.
National Presbyterian Church, Washington, D. C.
Chapel, American Military Cemetery, Belleau Wood, France
Church of the Holy Rosary, Pittsburgh, Pa.

GEORGIAN CHURCHES

The Second Church in Boston
Wheaton College Chapel, Norton, Mass.
Central Union Congregational Church, Honolulu
First Presbyterian Church, Utica, N. Y.
Chapel of Choate School, Wallingford, Conn.
Presbyterian Church, Jamestown, N. Y.

SCHOOL AND UNIVERSITY BUILDINGS AND LIBRARIES

Phillips Exeter Academy, Exeter, N. H.—Dormitories and Academic Building
Sweet Briar College, Sweet Briar, Va.
Graduate College, Princeton University, Princeton, N. J.
United States Military Academy, West Point, N. Y.—Chapel, Gymnasium, New Barracks, and Post Headquarters
William M. Rice Institute, Houston, Tex.—Administration Building, Chemical Laboratory, and Dormitories
University of Richmond, Richmond, Va.
Beebe Memorial Library, Wakefield, Mass.
Wellesley College, Wellesley, Mass.—Student Alumnae Building
Williams College, Williamstown, Mass.—Chapin Hall, Dormitories, and Library
Theta Delta Chi Fraternity House, Williams College
Wheaton College, Norton, Mass.—Library and Dormitory
Parochial School, Church of Saints Peter and Paul, Fall River, Mass.

FURNITURE AND DETAILS

War Memorial Cross, Calvary Church, Pittsburgh, Pa., and Silas McBee Memorial Cross
Crehore Memorial Cross, Mt. Auburn Cemetery, Cambridge, Mass.
Design for Processional Cross, Saint Paul's Church, Rochester, N. Y., and Crozier for the Bishop of Rhode Island
Altar Cross, Grace Church, Providence, R. I., and Portable Silver Font from the George B. Booth Collection, Detroit
Portable Pulpit, Mercersburg Academy Chapel, and Pulpit for Saint Mary's Church, Redford, Detroit, Mich.
Reredos, Saint Joseph's Chapel, Saint Paul's Church, Brooklyn, N. Y.
Design for Baldachino, Saint Paul's Church, Brooklyn, N. Y.
Reredos, Saint John's Church, Providence, R. I.
Altar and Reredos, Saint Luke's Cathedral, Portland, Me.
Altars, Church of Saints Peter and Paul, Fall River, Mass.
Tryptich, Saint Ignatius' Church, N. Y.
Shrine at Entrance to the Chapel of the Blessed Virgin, Saint Ignatius' Church, N. Y.
Pyx for Church of the Advent, Boston, Mass.

RESIDENCES

Residence of William E. Atwood, Esq., East Gloucester, Mass.
Residence of Cleveland Sewall, Esq., Houston, Tex.
Residence of Paul Watkins, Esq., Winona, Ill.
"Whitehall," Estate of Ralph Adams Cram, Sudbury, Mass.—Orchard Porch

THE PENCIL POINTS PRESS, Inc.

419 Fourth Avenue **New York, N. Y.**

Make permanent beauty part of your specifications . . .

MILCOR

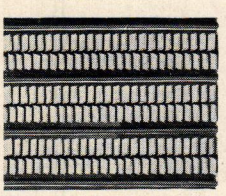
STAY-RIB METAL LATH
EXPANSION CORNER BEAD



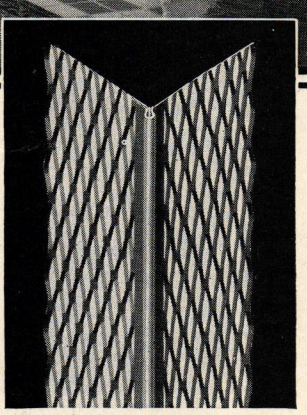
THE many structural advantages of *Milcor* Products achieve permanent beauty in home construction. In its design *Milcor* Stay-Rib Metal Lath is unique in its unusual rigidity and strength. It provides fire safeness and assures maximum protection against cracking. The expanded metal wings which distinguish *Milcor* Expansion Corner Bead and Casing from all other similar products, allows the keying of the plaster right to the actual corner—eliminating the danger of the plaster checking off or cracking . . . Complete details and recommended specifications are contained in the "*Milcor* Manual". We will gladly send you a copy for your file.

MILWAUKEE CORRUGATING COMPANY
1403 Burnham Street, Milwaukee, Wisconsin
Branches: Chicago, Ill., Kansas City, Mo., La Crosse, Wis.
Sales Offices: Boston, Mass., Detroit, Mich., Atlanta, Ga.
Little Rock, Ark., Minneapolis, Minn.
Eastern Plant: **The Eller Manufacturing Co., Canton, Ohio.**

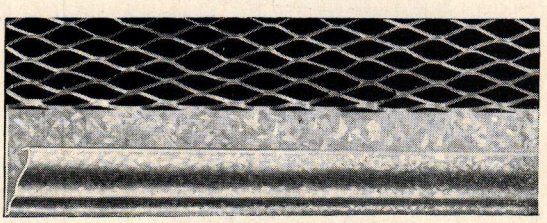
Specifications for every home, large or small, should include these three Milcor products . . . Expansion Corner Bead for arches and corners . . Stay-Rib Metal Lath for better plastering . . and Expansion Metal Casing for windows and doors. Write for more information.



STAY-RIB METAL LATH



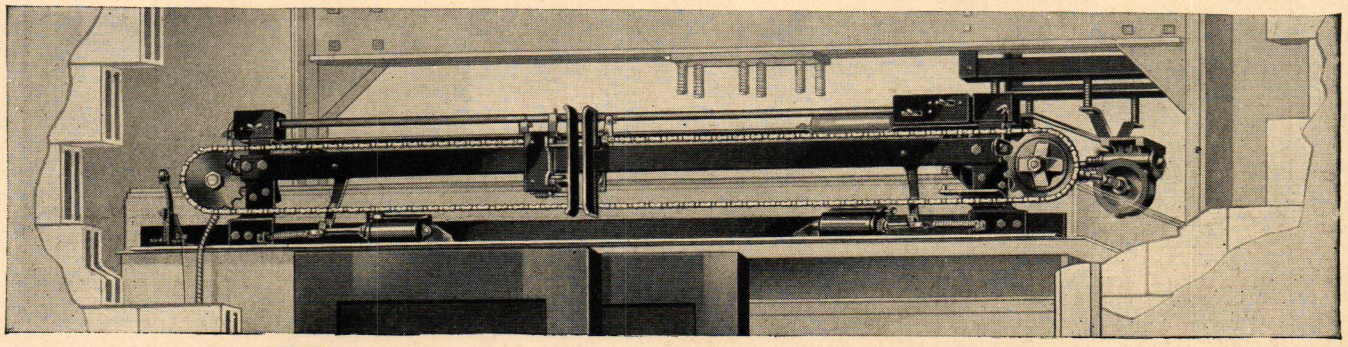
EXPANSION CORNER BEAD



EXPANSION METAL CASING

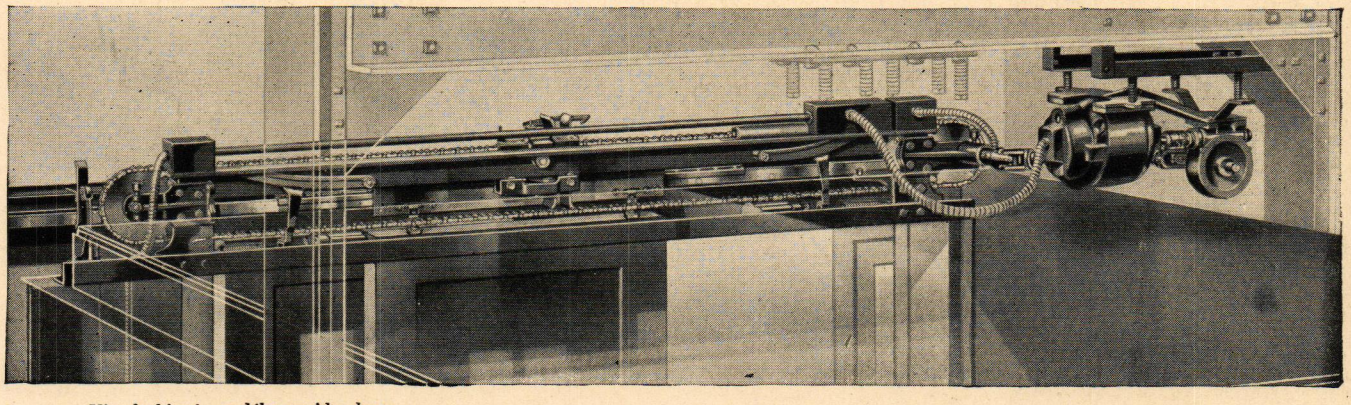
MILCOR PRODUCTS
FOR FINER CONSTRUCTION

OPERATE ELEVATOR DOORS *electrically*



Elevation looking toward the cab from corridor side, with top of doorway and hangers cut away to allow a clear view of the operating machine.

The only proven electric method is PowR-Way



View looking toward the corridor doors from the top of the cab, showing motor drive unit suspended from elevator cross beams and operating machine mounted on top of cab just above the entrance.

Speed, Safety and Economy

PowR-Way possesses all these virtues. It opens and closes elevator doors speedily, smoothly, quietly, *by electricity*. The speed, while constant and invariable, may be regulated.

With PowR-Way, the car can move only when all doors in the shaft are fully closed. One switch for the entire shaft, instead of a switch at every opening, unfailingly controls this simplified interlocking mechanism. The "master switch" itself is an engineering triumph, operating by gravity alone.

PowR-Way equipment requires *no clearance space* behind doors. This space-saving feature alone brings unprecedented savings in rentable floor space. The additional speed of PowR-Way elevator service reduces the number of cars required in large buildings . . . further savings in space, equipment, installation, operation and maintenance.

Every elevator door requirement is met by R-W equipment; Hangers, closers, checks, interlocks, electric operation AND SIGNAL SYSTEMS OF ALL MODERN TYPES. ***Send for catalog.***

RICHARDS-WILCOX R-W AURORA TRADE MARK

"Quality leaves its imprint"

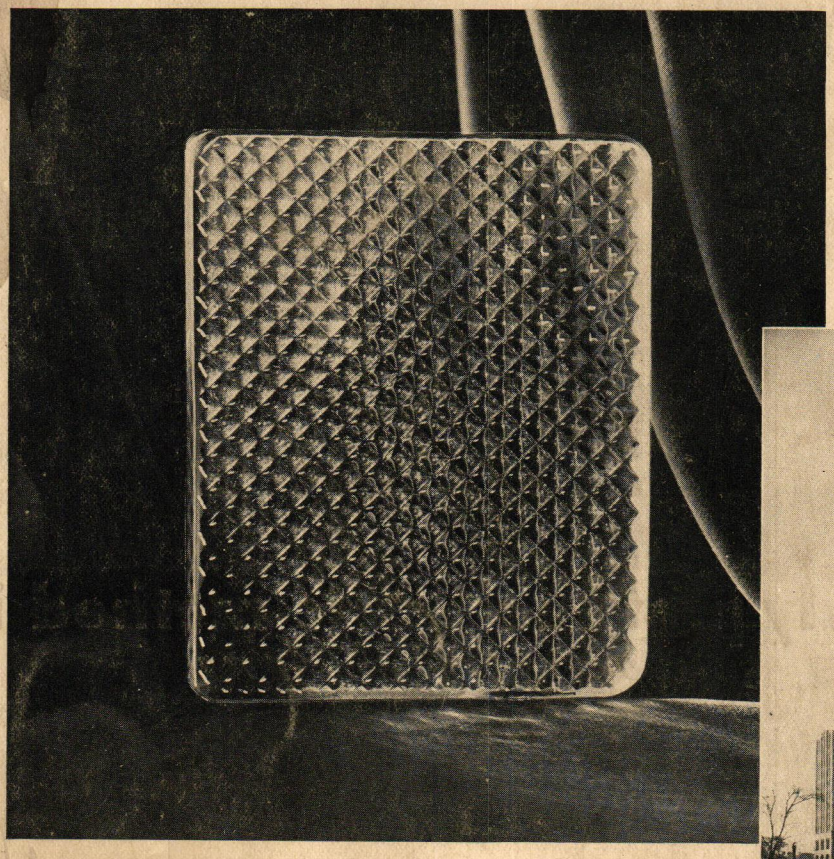
Richards-Wilcox Mfg. Co.

"A Hanger for any Door that Slides."

New York . . . . AURORA, ILLINOIS, U.S.A. . . . . Chicago

Boston Philadelphia Cleveland Cincinnati Indianapolis St. Louis New Orleans Des Moines Minneapolis Kansas City Atlanta Los Angeles San Francisco Omaha Seattle Detroit Montreal • RICHARDS-WILCOX CANADIAN CO., LTD., LONDON, ONT. • Winnipeg

Printing of Pencil Points by The Gillespie Bros., Inc., Stamford, Conn.



THE Fisher Building, Detroit, shown below, for which the architect, Albert Kahn, was awarded the silver medal in architecture for 1929 by the Architectural League of New York.



AURORA...
in the Fisher Building

AURORA was the natural choice for partition glass in this beautiful building. The beauty and effectiveness of its simple prismatic design make Aurora the logical choice of architects and engineers in ever increasing numbers. Aurora is manufactured in two qualities, both having the same excellent illumination value—*plain* for use where economy is essential, *polished* for use where quality is the main consideration. Glass distributors everywhere carry Aurora and all other Mississippi products. Make quality certain by specifying "Mississippi".

Samples upon Request

MISSISSIPPI GLASS COMPANY

220 FIFTH AVENUE · · · NEW YORK